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MR. DOWNING'S LETTERS FROM ENGLAND.

MY DEAR SIR—I intended to say something to you in this letter of the enormous parks of London—absolute woods and prairies, in the midst of a vast and populous city; but the subject is one that demands more space than I have at my disposal to-day, and I shall therefore reserve it for the future. I will merely say, *en passant*, that every American who visits London, whether for the first or the fiftieth time, feels mortified that no city in the United States has a public *park*—here so justly considered both the highest luxury and necessity in a great city. What are called parks in New-York, are not even apologies for the thing; they are only squares, or paddocks. In the parks of London, you may imagine yourself in the depths of the country, with, apparently, its boundless space on all sides; its green turf, fresh air, and, at certain times of the day, almost its solitude and repose. And at other times, they are the healthful breathing zone of hundreds of thousands of citizens!

THE NATIONAL GARDEN AT KEW.—I have just come from a visit at Sir WILLIAM HOOKER'S, at Kew Park. He is the director of the Royal Gardens at Kew,—a short distance from his house,—where we spent almost the entire day together, exploring in detail the many interesting features of this place, now admitted to be the finest public botanic garden in Europe.

It is only within a few years that Kew gardens have been given up to the public; and it is wholly owing to the spirited administration of Sir WM. HOOKER—so well known in both hemispheres for his botanical science—that it has lately reached so high a rank among botanical collections. Originally, the place is interesting, as having been the favorite suburban residence of various branches of the royal family. GEORGE III. lived here; and here Queen CHARLOTTE died. The botanical taste of the latter is well known, and has been commemorated in that striking and beautiful plant, the *Strelitzia*, named in her honor* by Sir JOSEPH BANKS. For a long time the garden was the receptacle of all the rare plants collected by English travellers—Capt. COOK, Sir JOSEPH BANKS, CUNNINGHAM, and others. What was formerly of little value has, however, lately become a matter of national pride; and this is owing to the fact, that the present queen has wholly given Kew up to the public, even adding a

* She was Princess of the House of Mecklenberg Strelitz.

considerable sum annually from her private purse towards maintaining it. The old "Kew Palace," which stands in the grounds, is a small, simple, brick mansion, without the least pretension to state, and shows very conclusively that those of the Hanover family who lived here did it from real attachment to the place—like Queen CHARLOTTE, from love of botany; as there is nothing about it to please the tastes of an ambitious mind.

As Kew has been already described by one of the correspondents of this journal, I shall not go into those details which might otherwise be looked for. I shall rather prefer to give you a comprehensive idea of the attractions of the place, which, though about eight miles from London, was visited last year by one hundred and thirty-seven thousand persons. The only requisite for admission is to be decently dressed.

When you hear of a *garden*, in America, you fancy some little place, filled with borders and beds of shrubs and flowers, and laid out with walks in various styles. Dispossess your mind at once, however, of any such notions as applied to Kew. Fancy, on the other hand, a surface of about two hundred acres; about sixty of which is the botanic garden proper, and the rest open park or pleasure grounds. The ground-work of the whole is turf; that is, smoothly mown lawn in the sixty acres of botanic garden, and park-like lawn, occasionally mown, in the remainder. Over this, is picturesquely disposed a large growth of fine trees—in the botanic garden, of all manner of rare species, every exotic that will thrive in England—growing to their natural size without being in the least crowded—tall pines, grand old Cedars of Lebanon, and all sorts of rare deciduous trees. Between the avenues and groups are large open glades of smooth lawn, in which are distributed hot-houses, ornamental cottages, a large lake of water, parterres of brilliant flowers for show, and a botanical arrangement of plants, shrubs, and trees for scientific study.

In the centre of a wide glade of turf rises up the new palm-house, built in 1848. It is a palace of glass—362 feet in length, and 66 feet high—and fairy-like and elegant in its proportions, though of great strength; for the whole, frame-work and sashes, is of cast iron, glazed with 45,000 feet of glass. You open the door, and, but for the glass roof that you see instead of sky above your head, you might believe yourself in the West Indies. Lofty palm trees, thirty or forty feet high, are growing, rooted in the deep soil beneath your feet, with the same vigor and luxuriance as in the West Indies. Huge clusters of golden banannas hang across the walks, and cocoa nut trees, forty-two feet high, wave their tufts of leaves over your head. The foliage of the cinnamon and camphor scents the atmosphere, and rich air-plants of South America dazzle the eye with their strange and fanciful blossoms. Most beautiful of all are the *tree ferns*, with trunks eight or ten inches in diameter, and lofty heads, crowned with plume-like tufts of the most delicate and graceful of all foliage. From the light iron gallery, which runs round the inside of this tropical forest-conservatory, you look down on the richest assemblage of vegetable forms that can be conceived; while over your head clamber, under the iron rafters, in charming luxuriance, the richest passion flowers and other vines of the East Indian islands.

If you are interested in exotic botany, you may leave this palm house, and pass the entire day in only a casual inspection of the treasures of other climates, collected here from all parts of the world. Green-houses, the stoves, the orchidaceous house, the Australian house, the New-Zealand house, and a dozen other glass structures, contain all the riches of the vegetable kingdom which will

not bear the open air,—and each in the highest state of cultivation. Giant cactuses from Mexico, fourteen feet high, and estimated to be four hundred years old, and rock gardens under glass, filled with all the ferns and epiphytes of South America, detain and almost satiate the eye with their wonderful variety, and grotesqueness of forms and colours.

In the open grounds are many noble specimens of hardy trees, of great beauty, which I must pass by without even naming them. I saw here the oldest Deodar Cedar and Araucaria imbricata in England, each about twenty-five feet high, and justifying all the praises that have been lavished upon them; the former as the most graceful, and the latter the boldest and most picturesque of all evergreens. The trunk of the largest Araucaria, or Chili pine, here, is of the thickness of a man's leg; and the tree looks, at a distance, like a gigantic specimen of deep green *coral* from the depths of the ocean. I was glad to know, from experience, that these two noble evergreens are quite hardy in the northern states. You may judge of the scale on which things are planned in Kew, when I mention that there is a wide avenue of Deodars, newly planted, (extending along one of the vistas from the palm house,) 2,800 feet long. A steam engine occupying the lower part, and a great reservoir the upper part of a lofty tower, supplies, by the aid of concealed pipes, the whole of the botanic garden with water.

I should not omit the museum—a department lately commenced, and upon which Sir WILLIAM HOOKER is expending much time. It is in some respects, perhaps, the most useful and valuable feature in the establishment. Here are collected, in a dried state, all the curious and valuable vegetable products—especially those useful in the arts, medicine, and domestic economy—all the raw vegetable materials—the fibre—the manufactured products, etc. Here, one may see the gutta percha, of the East Indies, in all its states—the maple sugar of America—the lace-bark of Jamaica—the teas of China, and a thousand other like useful vegetable products, arranged so as to show the stages of growth and manufacture. Collections of all the fine woods, and specimens of interesting seeds, are also kept in glass cases duly labelled.

Now that I have perhaps feebly given you a *coup d'œil* of the whole, (omitting numberless leading features for want of time and space,) you must, in order to give the scene its highest interest, imagine the grounds, say at 2 o'clock, filled with a thousand or twelve hundred men, women and children, of all ages—well dressed, orderly and neat, and examining all with interest and delight. You see that they have access, not only to the open grounds, but all the hot-houses, full of rare plants and flower gardens, gay with the most tempting materials for a nosegay. Yet, not a plant is injured—not the least harm is done to the rarest blossom. Sir WILLIAM assured me that when he first proposed to try the experiment of throwing the whole collection open to the public, many persons believed it would prove a fatal one; that, in short, Anglo-Saxons could not be trusted to run at large in public gardens, full of rarities. It has, however, turned out quite the contrary, as he wisely believed; and I learned with pleasure (for the fact has a bearing at home,) that on days when there had been three thousand persons in the garden at a time, the destruction committed did not amount to the value of four pence! On the other hand, the benefits are not only felt indirectly, in educating, refining, and elevating the people, but directly in the application of knowledge to the arts of life. I saw, for example, artists busy in the garden, who had come miles to get an accurate drawing of some plant necessary to their studies; and

artisans and manufacturers in the museum, who had been attracted there solely to investigate some matter connected with their business, in the productions of the loom or the workshop.

In short, I left Kew with the feeling, that a national garden in America might not only be a beautiful, but a most useful and popular establishment; one not too dearly bought, even at the expense bestowed annually upon Kew.

The New Houses of Parliament.—I spent a whole morning with Mr. Barry, the distinguished architect of the new houses of Parliament, in examining every part in detail. It is a common feeling that the age for such gigantic works in architecture as the Gothic cathedrals, has gone bye. Perhaps this may be the case, with religious edifices; though I doubt even that, with such a great church and state empire as Russia growing up, and already casting a gigantic, though yet vague shadow over Europe. But here is certainly a flat denial of the opinion, in this new legislative hall of Great Britain—quite the masterpiece of modern Gothic architecture, (excepting perhaps the cathedral of Strasbourg.) Concisely, this vast pile, not yet finished, covers, with its courts, about eight acres of ground. Ten years have been consumed in its erection; and as many more will probably be required for its completion. You must remember, too, that not only have as many as 3000 men been employed on it at a time, but all the appliances of steam-lifting and other machinery are used besides, which were not known in the days of cathedrals.

The style chosen by Mr. Barry is the perpendicular, or latest decorated Gothic—the exterior, rather very nearly akin to that of the beautiful town halls of the Low Countries, than that of any English examples. The stone is a hard limestone from Yorkshire, of a drab colour; and the decorative sculpture is elaborate and beautiful in the highest degree. What particularly charmed me, was the elegance, resulting from the union of fine proportions and select forms of modern cultivated tastes, with the peculiarly grand and venerable character of Gothic architecture. One is so accustomed to see only strength and picturesqueness in middle-age examples, that one almost limits the pointed style to this compass. But Mr. Barry has conclusively shown that that *elegance*—which is always and only the result of fine proportions—is a beauty of which Gothic architecture is fully capable. Of the splendor of the House of Lords, and the richness and chasteness of many other portions of the building, you have already had many accounts. I will therefore only say, at present, that so carefully has the artistic effect of every portion of this vast building been studied, that not a hinge, the key of a door, or even the candlesticks on the tables, has been *bought* at the dealers; but every detail that meets the eye has been especially designed for the building. The result, as you may suppose, is a unity and harmony throughout, which must be seen to be thoroughly appreciated.

The profession has often found fault with the employment of a florid Gothic architecture for this building. Certainly, it looks like throwing away such delicate details,—to pile them up amid the smoke of London, which is, indeed, already beginning to blacken and deface them. But, on the other hand, the beauty and fitness of the style for the interior seem to me unquestionable. The very complexity appears in keeping with the intricate machinery of a government, that rules an empire almost extending over half the globe.

Picture of a Nobleman's Seat.—I shall finish this letter with a sketch of a nobleman's seat, where I am just now making a visit; and can therefore give you the outlines

in a better light than travellers generally can do. The seat is called Wimpole—the property of the EARL OF H——, and is situated in the fine agricultural district of Cambridgeshire. It is not a "show place;" and though a residence of the first class, especially in extent, it is only a fair specimen of what you may find, with certain variations, in many counties in England.

The landed estate, then, amounts to more than thirty-seven thousand acres—a large part admirably cultivated. The mansion, which stands in the midst of one of those immense and beautiful parks which one only finds in England, is a spacious pile in the Roman style, four hundred and fifty feet front; rather plain and antique without, but internally beautiful, and in the highest degree complete—both as regards arrangement and decoration. The library, for example, is sixty feet long, quite filled with a rich collection of books. The suite of drawing-rooms abounds with pictures by VAN DYCK, RUBENS, and other great masters; and there is a private chapel, in which prayers are read every morning, capable of containing a couple of hundred persons.

In front of the house, a broad level surface of park stretched before the eye, and is finely taken advantage of as a position for one of the noblest avenues of grand old elms that I have seen in England; an avenue three miles long, and very wide—not cut in two by a road,* but carpeted with grass, like a broad aisle of verdure. Place at the end of this a distant hill, and let the avenue be the central feature to a wide park, that rises into hills and flows into graceful swells behind the house, and fill it with herds of deer and groups of fine cattle, and you have a general idea of the sylvan features of Wimpole.

But it is not yet complete. Behind the house, and separated from the park by a terrace walk, is a parterre flower garden, lying directly under the windows of the drawing-rooms. Like all English flower gardens, it is set in velvet lawn—each bed composed of a single species—the most brilliant and the most perpetual bloomers that can be found. Something in the soil or culture here seems admirably adapted to perfect them, too; for nowhere have I seen the beds so closely covered with foliage, and so thickly sprinkled with bloom. Some of them are made of two new varieties of scarlet geraniums, with *variegated* leaves, that have precisely the effect of a mottled pattern in worsted embroidery.

Beyond this lies the pleasure grounds,—picturesque, winding walks, leading a long way, admirably planted with groups and masses of the finest evergreens and deciduous trees. Here is a weeping ash, the branches of which fall over an arbor in the form of half a globe, fifty feet in diameter; and a Portugal laurel, the trunk of which measures three feet in circumference. A fine American black walnut tree was pointed out to me as something rare in England. And the underwood is made up of rich belts and masses of Rhododendrons and English laurels.

I must beg you to tell my lady friends at home, that many of them would be quite ashamed were they in England, at their ignorance of gardening, and their want of interest in country life. Here, for instance, I have been walking for several hours to-day through these beautiful grounds with the COUNTESS OF H., who, though a most accomplished person in all other matters, has a knowledge of everything relating to rural life, that would be incomprehensible to most American ladies. Every improvement or embellishment is planned under her special direction. Every plant and its culture are familiar to her; and there is no shrinking at barn-yards—no affected fear of cows—no ignorance of the dairy and poultry-yard. On the contrary, one is de-

* The approach is at the side.

lighted with the genuine enthusiasm and knowledge that the highest class (and indeed all classes) show in the country life here, and the great amount of health and happiness it gives rise to. The life of an English woman of rank, in the country, is not the drawing-room languor which many of my charming country women fancy it. Far from it. On the contrary, it is full of the most active duties and enjoyments. But it must be admitted that the cool and equal temperature of the summers here, is greatly more inviting to exercise than our more sultry atmosphere at home.

We measured, in the course of the morning's ramble, several English elms, with which the park here abounds, from 15 to 18 feet in circumference.* I was not so much surprised at this, as at the grandeur of the horse chestnuts, which are truly majestic—many measuring not less in girth, with a much greater spread of branches; each lower branch of the dimensions of an ordinary trunk, and, after stretching far out from the parent stem, drooping down and resting upon the turf, like a giant's elbow, and then turning up again in the most picturesque manner. The trees in England have a more uniform deep green tint than with us, which I think rather lessens the richness and variety of the landscape.

The Queen made a visit here in 1844; and as everything which royalty does in a monarchy is commemorated—and especially when, as in the present case, the character of the sovereign is a really good one—I was shown a handsome new gate at the side of the park, opposite to that which I entered, with a striking lodge in the Italian taste, bearing the royal arms, and called the "Victoria gate." What interested me much more, was an almshouse, built and managed wholly by LADY H., as a refuge for deserving persons, grown old or infirm in the service of the family, and unable, through ill health or incapacity, to take care of themselves. The building—cottage-like—is not only quite an ornamental structure in the old English manner, but the interior is planned so as to secure the greatest comfort and convenience of the inmates. Nothing could be more delightful than the kind interest felt and acknowledged between the benevolent originator of this charity and those who were its recipients. The eyes of an infirm old woman, to whom my having come from America was mentioned, and who had sons in the new world, brightened up with a strange joy at seeing some one from a land where her heart had evidently been of late more busy than at home. "It was a good country," she said; "her sons had *bought land*, and were doing famous." For a working man to own land, in a country like this, where the farmers are almost all only tenants of the few great proprietors, is to their minds something like holding a fee simple to part of paradise.

The morning yesterday was spent on horseback in examining the agriculture of the estate. The rich harvest fields, extending over the broad Cambridgeshire plains, afford, at this season, a fine picture of the great productiveness of England. About a thousand acres are farmed by LORD H., and the rest let to tenants. I was glad to hear from him that he has endeavored, with great success, to abolish the enormous consumption of malt liquor among laborers of all classes here, by giving them only a very small allowance, joined to a sum equal to the largest allowance on other estates, in the shape of an addition to their wages. He confirmed my previous impressions of the bad effects produced by this monstrous guzzling of beer by the working men of England; a consumption actually astounding to one accustomed to the absti-

* But, after all, not so noble or beautiful as, in their heads, the American elms in the Connecticut valley.

nent and equally hard working farmers of the United States.*

Farming, here, is a vastly more scientific and carefully studied occupation than with us; and the attention bestowed upon landed estates, (many of which yield a revenue of $50,000 or $60,000 a year, and some much more,) is, as you may suppose, one of no trifling moment. Hence the knowledge of practical agriculture, by the owners of many of these vast English estates, is of a very high order; and I am glad, from considerable observation, to say that the relations between owner and tenant are often of the most considerate and liberal kind. No doubt the present free trade prices of corn make a hard market for many of the tenant farmers of England. Yet, as the interests of the landlord and tenant run in parallel lines, it is clear that rents must be modified accordingly. Upon this estate, this has been done most wisely and judiciously. The good understanding that exists between both parties is therefore very great; as a proof of which, I will mention that the Earl gives a dinner twice a year, to which all his tenants are invited. At the last festival of this sort, he took occasion to speak publicly of the low prices of bread stuffs, and the complaint so frequently made of the high rents at which farms were still held. To meet the state of the times, he added, that he had, from time to time, altered the scale of his rents; and had now resolved to make a still further reduction of a certain number of shillings per acre to all who would apply for the same after that day. He now mentioned to me, that although nearly two months had elapsed, not a single application had been made; and this, perhaps, solely because the tenants appreciated the justice and liberality with which the estate had been managed, and knew the free trade policy, where this is the case, falls as heavily on the landlords as on themselves.

Nothing can well be more complete, of its kind, than this highest kind of country life in England. I leave out of the question now, of course, all republican reflections touching the social or political bearing upon other classes. Taken by itself, it has been perfected here by the long enjoyment of hereditary right, united to high cultivation and great natural taste for rural and home pleasures, till it is difficult to imagine anything (except, perhaps, a little more sunshine out of doors,) that would add to the picture. In the first place, an Englishman's park, on one of these great estates, is a species of kingdom by itself—a vast territorial domain, created solely for his own enjoyment, and within the bounds of which his family and guests may ride, drive, walk, or indulge their tastes, without in the least interfering with any one, or being interfered with, by the presence of any of the rest of the world. In the next place, the climate not only favors the production of the finest lawns and pleasure grounds in the world, but promotes the out-of-door interest in, and enjoyment of them. Next, these great domestic establishments, (so immense and complete that we have nothing in America with which to compare them,) are still managed, (owing to the exercise of the service, and the division of labor,) with an ease and simplicity quite incomprehensible to an American, who knows from experience how difficult it is to keep a household of half a dozen domestics together, even in the older parts of the Union. Here, there are sixty servants, and I have been in houses in England where there are above a hundred, and yet all moving with the quiet precision of a chronometer. There are few

* At the celebrated farm of Mr. W., in this county, his cellar contained, at the commencement of harvest, 24 *hogsheads of beer*; barely enough, as I was told, for the harvest labor—about nine pints per day to each man. There was nearly a strike among the workmen for ten pints; indeed, a gallon per day is no very uncommon thing for a beer drinker in England!

people in England, I think, who seem inclined to say amen, to the doctrine that

"Man wants but little here below."

I would however be quite willing to subscribe to it, so far as regards one's domestic establishment in America, if, alas! we could have "that little"—*good!*

I must close my letter here, with a promise to give you some account of Chatsworth in my next, which stands, in some respects, at the head of all English places. Yours, most truly,

A. J. D.

Cambridgeshire, August, 1850.

EXPERIMENTS WITH EVERGREEN AND OTHER TREES.

BY GEORGE JAQUES, WORCESTER, MASS.

DEAR SIR—If the following account of a few experiments is worthy a place in the columns of the Horticulturist, I shall be happy to see it there, provided you will add such remarks of your own as the nature of the experiments may suggest.

EXPERIMENTS WITH EVERGREENS.—*Transplanting.*—Theoretically, we understand that trees of the temperate zones have generally (there may be some exceptions,) two seasons of repose during the year. The first period of rest is the short *siesta*, in which they indulge during two or three weeks immediately succeeding the middle of June, i. e., about the longest days of summer. The first flow of sap is over; the new shoots have protruded themselves and expanded their leaves; the fruit is set, and nature for a little while takes her needed repose. Soon, however, a new impulse is received; the shoots commence growing again, and putting forth leaves upon their extended wood, and the fruit swells in size, and gradually arrives at maturity. As the cold weather of autumn approaches, the fruit and leaves fall to the ground, the trees again become dormant, and their sap remains almost motionless until the approach of spring.

The chief operations with trees, are to be performed during this latter long season of their repose. The question of transplanting evergreens, therefore, is not whether it shall be done in the fall, or in the spring, or at mid-summer; but whether it should be performed during the summer sleep, or during the winter sleep of the trees, and at what part of those intervals of rest?

Were it not for the effects of frost during our long and severe winters, it would unquestionably be best to transplant trees of every description just at the commencement of their winter's repose. But, as our seasons are constituted, after many experiments and considerable observation of the experience of others, we prefer to plant our trees,—evergreen or deciduous, small or large,—except only those of very large size, in the spring, or rather just as the trees are beginning to wake from their long sleep. Having neglected this opportunity, we should next select the early or middle part of their summer rest, for transplanting evergreens; but we never mean to transplant this class of trees in autumn again, if we can avoid it.

We might adduce scores of facts upon which to back these conclusions; but we shall confine ourselves to the hemlock only. It is well known that these beautiful natives of our forests are as impatient of cultivation as an Indian is of civilization. Many who have tried to win them from their wild haunts, have given the thing up in despair. We have

never been able to make, and have never known the hemlock to live when transplanted in autumn. Last year, we moved about forty, four to six feet high, on a *rainy day* (the most favorable weather, of course,) in June. Only five of them are now alive. This last spring, we transplanted fifty-two, on a *rainy day* about the last of April. They are all alive, and are now making their growth upon the second flow of sap, so that they are about certain not to disappoint our expectations.

To those who may wish to supply their grounds with this, the most beautiful of all North American evergreens, we submit the above as our experience.

Wherever small trees of the hemlock grow in a field or in an open wood, or by the side of a wood, where they are used to the light of the sun, and where the ground under them is sandy and free from stones, so that they can be taken up with the earth adhering to their roots, if transplanted on a damp, cloudy, or rainy day, there is no difficulty about moving the trees of six feet or less in height. When once removed to the nursery, they may be easily re-set at any time.

Shortening-in.—We have found evergreen and deciduous trees to be alike benefitted by shortening-in after transplanting. One mode of operating we prefer with evergreens, is to cut them in a conical form, omitting to cut off the leading shoot, respecting which we have a word also to add.

Restoring the Leader.—"It hath been said of old," that the leading shoot of an evergreen, once destroyed, cannot again be restored. We do not find it so. Our experiments with the Hemlock, American Fir, Norway Spruce Fir, and Arbor Vitæ, have shown very satisfactorily the reverse of this old assertion. Wherever the leader is destroyed, we select the nearest thrifty side shoot, or two of them, if we wish the tree to have a double head; we tie these to a stake, or otherwise fasten them in a vertical position, and they soon become as good leading shoots as the original was. The experiment rarely fails with trees less than ten or twelve feet in height; and for aught that we know, it would succeed with much larger trees. The leader of any deciduous tree may be restored in the same way, as is well known.

Shortening-in to Improve the Growth.—We have had most gratifying success with this operation, when applied to the American Fir, Norway Fir, Arbor Vitæ, Hemlock, Scotch and American Larches. The foliage or spray of these trees, may in this way be thickened to almost any extent. The American Larch thus treated, becomes a most beautiful tree; and the Norway Fir and Arbor Vitæ of a hedge row may, by this means, be converted into a perfect green wall, through which even the light cannot penetrate. The preferable season to shorten-in is perhaps just before the trees begin to grow in the spring, although it succeeds well at the time of their summer rest, in June.

Disbarking Deciduous Trees.—We have often heard that an apple tree might have its entire trunk disbarked in the month of June—that is, during its summer rest—without injury. We have had testimony from those who have seen it done. Last year we had a Napoleon pear, having a blackish, shrivelled, unhealthy bark upon its trunk. We disbarked the entire trunk three-fourths of the circumference. The tree was small, or about two inches through at the ground. It has now a fine healthy *rough* bark, (a great improvement over the smooth bark, because now the crisis from smooth to rough bark is passed safely over,) and the tree is in excellent condition. We tried a similar experiment this year, with the like success. Another season, we mean to apply this mode of cure with a bolder hand; and, provided we live, some of our leprous-barked subjects of the

pear family will be sure to "catch it." We believe what is called *canker*, upon the bark of large trees, may be cured in this way. The experiment is certainly worth trial.

Taking off the outer bark of the trunk of the cherry, when it is two or more years old, is now a part of our regular practice. We change the bark at once from the smooth condition of its youth to that permanent roughness belonging to the remainder of its life; and the tree is far more likely to flourish, and to escape the peculiar diseases to which its trunk is liable, than it is without this assistance.

This treatment, we are inclined to think, will operate favorably in preventing the *plum wart*, or *black knot*, as it is called; for we think the old remedy of cutting off the warts, had its efficiency in *opening the bark*, rather than in any other way removing the source of the disease.

TRANSPLANTING TREES IN A GROWING STATE.—We found it necessary, about the middle of June last, to remove three or four apple and pear trees, of six or eight feet in height, and one apple tree of some four inches in diameter, in a bearing state. The trees did not droop scarcely at all; and they continued in a fine healthy condition,—some of them even making a fine growth, with the second flow of sap. The mode of operating was that recommended by the late Col. Perkins, (see vol. 1st of Horticulturist, page 170th;) that is, saturating the ground with water, &c.; then taking up the tree with the muddy earth attached in a mass, and supplying water bountifully after it is set. * * *

I have copied the foregoing hastily from my memorandum book; and I offer it for publication, in the hope that you will intersperse it liberally with editorial remarks, and thereby render it of more value to your readers. Yours, &c., GEO. JAQUES.

Worcester, Mass., September, 1850.

LAYING OUT AND PLANTING LAWNS.

BY WM. WEBSTER, ROCHESTER, N. Y.

As the season for laying out and planting ornamental grounds is near at hand, I propose offering a few useful hints to those who may wish to become their own artists in the affair of laying out, planting, etc. Since the introduction of Mr. DOWNING'S works on Architecture, Landscape Gardening, &c., a spirit of emulation has arisen among us, and men of taste are no longer content to follow in the footsteps of their predecessors, but putting aside the old fashioned way of doing things, strive to combine the ornamental with the useful; and in effecting this change, this journal has contributed in no small degree.

In the matter of laying out and ornamenting grounds, the architectural designs must be kept in view, and the grounds arranged in such a manner that there may be perfect harmony existing throughout. Much also depends upon the situation and surrounding objects. If the site chosen be on the banks of a river or lake, terraces, with broad steps and balustrades may be adopted. Terraces are at all times beautiful objects in themselves, and particularly so, when from them a person is enabled to rest his eye upon a broad sheet of water. What person of taste, who has ever sailed upon the clear and placid waters of

Seneca Lake, has not admired the beautiful terrace gardens at Geneva? What splendid opportunities they afford for the display of flowers and taste. In gardens like these, many plants which, in other situations, would be considered too tender to stand the winter, would there flourish, protected as they would be from piercing winds in their sheltered situation, and from late and early frosts, by being subject to the genial influence of the lake.

Or if the place intended to be laid out, should happen to be situated on ground slightly elevated, with perhaps a hill clothed with verdure rising near, which frequently occurs in our varied landscape, then the grounds can be planted in such a manner as to make the hill appear a part of the whole. Such an object ought to be particularly kept in view, in the formation of new grounds. This is applicable to places of a few acres to several in extent. In planting such a place, a belt of trees ought to surround the grounds, or at least a part of them, always planting in such a manner as to bring every object of interest into view. The outward, or boundary line, should be planted with the larger growing trees; the smaller kinds and shrubs, in succession, so as to make a perfect screen, except in such places where it is desirable to obtain a view of any object. The belt should be planted in such a manner that a serpentine walk may be carried around the inner boundary, or between it and the lawn. Straight walks in such places should be avoided as much as possible, because, in traversing a straight walk, the whole is taken in at a glance; whereas, by adopting the serpentine walk, the scene is continually changing, and the eye meets variety at every turn.

And now for the greatest point of attraction—the lawn. What can be more beautiful than a well kept lawn, with its drooping trees, and beds of flowers, and many other attractions? No matter however beautiful a place may appear, it is still incomplete without its due proportion of grass; in fact, a well kept lawn lends a charm to all surrounding objects, and gives effect to the whole. In the formation of lawns, I would recommend the laying down of turf, in preference to seeding one. When a lawn is sown, it takes a great length of time to get a good turf; whereas, by laying one down, a fine even surface is obtained at once, and a beautiful verdure. Fancy figures may also be cut around the edges, or in different parts of the lawn, for the planting of flowers in masses, such as Verbenas, Petunias, Fuchsias, and the like. Drooping trees should also be planted in different parts of the lawn singly; the beauties of which, I need not here descant upon, as it has already been so ably done by Mr. Barry, in the last number of this journal. All close fences, or any unsightly objects, should be hid by trees, or covered with climbing plants or creepers. A plant admirably adapted to this purpose, is the Virginian creeper, *Ampelopsis hederacea;* a plant indigenous to the country, and which few people seem to realise the full utility of. It is a very rapid grower, and will attach itself to almost anything. Close to the Genesee falls, is a mill, one end of which is nearly covered with it. I should say it had grown sixty feet in height or more; and clinging to the wall, or hanging in graceful festoons, when viewed from the opposite side of the river, the effect is beautiful; and in the situation it occupies, it seems to associate itself with some time honored castle.

Almost all our native forest trees may be advantageously used in planting, and particularly evergreens; and, as the artist must use his own judgment in the selection of trees, he could not do better than make them

in October. He will then have an opportunity of studying the forest trees at a time when every colour is shown to advantage, and when every variety of tint, light and shade can be studied; and in planting, by striving to copy nature as near as possible, will hardly fail of success. I would not by any means recommend the planting of too large a proportion of forest trees; for evergreens ought to occupy by far the greatest share, the most desirable of which are the White Pine, Spruce, Hemlock, Balsam Fir, and White Cedar, which is quite important, as it makes most admirable screens, and, when planted singly, forms a most beautiful pyramidal tree; it will also bear pruning better than any other evergreen.

In regard to the formation of the carriage road, due care should be taken to have it approach the dwelling in gentle and easy curves; for on this depends much, as by carrying it up to the dwelling in a straight line, it would have the effect to mar the whole; whereas, by carrying out the curved lines, a perfect harmony will exist throughout.

These hints are only intended for those persons who are unable to obtain the services of a professional gardener, but still may wish to embellish their grounds. Let them commence at once and fear nothing; and may success attend all their efforts.

WM. WEBSTER.

Rochester, Sept. 13th, 1850.

SKETCH AND PLAN OF A TOLL GATE-HOUSE.

(SEE FRONTISPIECE.)

HAS anybody seen a toll gate which was not ugly? We fear the number of affirmatives will be very few. And yet the building is one that might be rendered picturesque in many ways—whether built of wood, stone, or brick. In some instances, where the turnpike is profitable, a substantial cottage of considerable size might be erected,—the gate itself being under cover, and the whole composition made architectural. In others, a smaller building, of one story high, might be made expressive by simpler means.

The frontispiece exhibits a sketch or study (but without any of the appropriate accessories of trees, etc.,) for a simple, but architectural cottage for a toll gate. The large open porch, in which the gate keeper stands to receive his dues, is in character with the purpose of the building. Though the whole is but one story high, the plan shows a living-room 12 by 15 feet, a bed-room 11 by 12 feet, and a kitchen 10 by 12 feet; the latter with a small room, intended for a store-room or pantry, partitioned off from it.

Such a cottage as this, in a district where either stone or wood is cheap, may be built for about $400; and would, we think, be far more agreeable to the eye, as well as more convenient, than the majority of our toll gate-houses.

MULCHING AND PLANTING FRUIT TREES—MULCHING STRAWBERRIES.

BY LEWIS F. ALLEN, BLACK ROCK, N. Y.

JEFFREYS says he is going to tell you a story about mulching. So am I. And as he, like Teucer of old, lets fly his arrows from behind the shield of Achilles, or—what is quite as potent in these more peaceful days—in the shade of an *incognita*, I choose to be more bold than he, and tell my story under my own sign manual, letting it go for what it is worth; and as he appears to have taken to farming for the remainder of the season, I may possibly be allowed to tell my story without his commentaries upon either its wisdom or its folly.

In the July number of the Horticulturist, volume 4, I gave some account of my plantation of orchards. I now continue it. After planting my pear trees in the spring of 1849, I *again* ridged the orchards with the plough, so as to increase the crowns and depress the furrows of the "lands" still more than when the trees were set out,—the line of trees being the crown of the ridge,—and sowed it into buckwheat, as I had proposed, of which I had a fine crop,—leaving the land light, smooth, and in good shape. Thus it stood through the past winter; the young scions, which I had put into the stocks, having made a good growth, although suffering under a severe summer drouth. Last spring, on examination, I found the land light, and in fine condition for harrowing down, which I did in the month of April, with a seeding of oats and grass,—making it smooth as a garden with a fine harrow. I have cut an abundant crop of oats, leaving the soil smooth and regular for the future grass, and the next season's mulching of the trees.

I will here remark that this pear orchard is, in area, about eighty rods from east to west, and twelve rods from north to south, giving fifteen rows of trees, twelve feet apart, and having a gradual inclination from west to east; and the crown of the ridges standing about eighteen inches above the depression in the furrows. The whole orchard is nicely drained; each furrow leading off its own water into a general cross drain on the lower side. Another thing I will remark: many of my trees having come a distance of several hundred miles, and been two or three weeks out of the ground—some of them packed in *dry* straw, without moss, and badly done at that—they had become quite dry and shrivelled. These I laid at once into the ground, both root and stock, full length, and covered heavily with moist earth, where they remained several days, until fully swelled up to their natural condition, when I trimmed them closely and planted them. Under such treatment I saved many that, with common usage, would have been altogether lost. But to have done exact justice to them, they should have been mulched, as I am about to relate I have treated others. Had I done this, I should probably have saved the lives of several, which I lost in consequence of bad packing, a long passage, and the cruel mutilation of their roots, in carelessly taking out of the ground by the nurserymen, or their laborers. And here—although I do'nt mean to say offensive things to a very worthy and indispensable profession—I feel obliged to assert, that there is altogether too little care practiced by some of our nurserymen in taking up and packing their trees. The only object appears to be to get rid of them, regardless of their fate, and, *seemingly*, by the process they practice, to make their lives as brief as possible.

Among the trees received last spring from New-York, were several hundred young French seedling pears—all dry, shrivelled, and apparently dead, having been out of the ground several weeks in crossing the Atlantic, together with the cullings of the American trees of larger growth, intended for immediate orchard planting, but which I rejected for that purpose from their bad condition. These I planted altogether in nursery rows, to grow for future use, and placed a thorough mulching of last year's buckwheat straw, three or four inches thick, over them. The larger trees I cut off and grafted when they were set out; the smaller ones I topped when planted. The result has been that I have lost very few of them, although the early part of the season was cold and dry, and many of them have made good growth.

Effects of Mulching in the Orchard.—Having planted about six hundred apple trees four or five years ago, upon a good piece of clayey loam, based on a clay subsoil, then under the plough, I soon after seeded it into grass, laying the land into ridges two rods apart when seeded, as with my pears, just described, and have since kept it for mowing. I kept the earth forked up well every year around the roots, and prevented the growth of grass about the trunks. In the spring of 1849, I dug round them, *outside* of the previous forking, a spade wide and a full spade deep, and filled that circular trench, so made, with barn-yard manure—say a wheelbarrow load to a tree, and threw the inverted sod of the trench upon it, while the under soil was thrown on the forked surface round the stem. The summer afterwards was extremely dry and hot, and the trees made little growth; indeed, they seemed injured from the treatment. Determined, however, to try the virtues of mulching, early last spring I took a quantity of old fresh marsh (not salt) hay, and buckwheat straw, and put around each tree a heavy pitchfork full, spreading it out for three or four feet each way from the stem, averaging perhaps four inches thick; all the remaining soil lying in heavy timothy and clover for meadow.

Now for the result. The summer's growth has been surprising. Shoots one, two, and three feet long have been made from almost every tree. The full bloom of the trees has been followed by an enormous crop of apples, which, unlike trees of feeble growth, have held on their fruit with wonderful tenacity, induced, no doubt, by the strong and vigorous stems which their enlarged growth has given them. During the dryest time of the summer—and until July commenced it was very dry—on lifting the straw, the ground was moist and cool about the roots, while outside the mulching it was dry and cracked. Moss, which had in some instances become *set* upon the trunks, peeled off and dropped; and the whole orchard has assumed an entirely different complexion. This mulch, for fear of mice next winter, I shall remove early in the fall, to be replaced, together with a fresh supply, next spring, when I purpose to mulch *all* my orchard trees of every description in the same manner; satisfied that I can do nothing so serviceable to their growth and health.

Planting Orchard Trees.—Having on hand in my nursery about twelve hundred apple trees, which were ready for planting, on about thirty acres of ground, which was then mostly in old meadow, I last fall put in a heavy team and turned the whole of it—excepting about four acres—over with the plough, nine inches deep, in "lands" two rods in width, on the ridges of which I intended to plant the trees. In the latter part of April last, I went to work in good earnest,—the frosts of winter having beautifully pulverised the soil, and made it friable as an ash-heap. The weather was cold and tempestuous, and sometimes frosty; but as the season was ad-

vancing, the work could not be postponed. Taking my foreman along, who, in his labors with me, I have learned to be as good a planter as myself—and I *do* know how to plant a tree—with four men, making two parties, we commenced. Before breakfast in the morning we went into the nursery and took up as many trees as would last us through the forenoon, which, immediately after breakfast, a cart took out into the field, and distributed in parcels of a dozen or twenty each. We first laid out the orchards (two separate pieces of land being allotted for the purpose,) with an outside row of trees planted entirely around it, two rods apart, and two cross rows, one each way through the centre, for the purpose of "lining" the trees in straight rows as we set them. In this *engineer* planting we had two extra men. Our tools were a shovel and a spade for the two men in each party, and a hoe each for ourselves. The sods were removed for a space about four feet in diameter,* down to their ploughed depth; the subsoil loosened, but not thrown out, about three inches below; then an inverted bed of sod thrown into the hole, so as to leave the tree, when planted, slightly above the level of the general surface; then the pulverised earth thrown in upon the roots about three inches deep, which were all nicely and carefully spread out as when they stood in the nursery. Over this were laid the inverted sods, to the height of two to three inches above the *neck* of the tree as it stood in the nursery; so as when the sod decomposed and settled, it should leave the stem fair; cut off the top of the tree when too high, thinned out and cut back the branches, trod the sods firmly about the roots, and the work was done. After dinner, another complement of trees were taken up in the nursery as before; and in six days our twelve hundred trees were planted, as such a number of trees are seldom planted in *this* country. But we *worked!* Two sets of us—one set of men to a row.

As I before remarked, three or four acres of this planting was in sod meadow. Here we excavated holes four feet in diameter, and a foot to fifteen inches deep. The sods, as we dug them, were thrown on to one side until the hole was finished. When this last was done, the sods were thrown into the bottoms of the holes inverted. We had an ox cart along with us, which was kept filled with the choicest mould from the adjoining ploughed ground. The roots of the trees were spread as before upon the inverted sods; and the hole entirely filled to the surface from the cart, upon which the excavated earth just taken from the holes was packed; making a mound like an inverted dining plate, to settle—as with the trees in the ploughed ground. That ended our labors.

And now for the result. The season, far into summer, was cold, backward and dry. Since the first of July we have had good rains, so that there is no fear of suffering from future drouths *this* year. I examined my whole orchard the other day, in company with Col. Hodge of the Buffalo nursery, Mr. Bryant of the Erie nursery, and Professor Coppock, who were a committee of the Buffalo Horticultural Society for the purpose; and *every single tree of the twelve hundred was alive*, and most of them had made from three to eighteen inches growth of young wood on the single limb since planting! Nor were they an extraordinary select lot of trees. They were from an inch to one and a half inches in diameter at the base, five to eight feet high,

* The following incident shows how little *gumption* most laborers have about tree-planting: A year or two ago I set a couple of men (and good diggers they were, too,) at work to dig holes for my fruit trees, and gave them a stick four feet in length for the diameter of the holes, which were also to be eighteen inches deep. After they had dug part of a day, I went to look at their work. The first half dozen holes were pretty well; but after that, they gradually tapered off till they were hardly as big as your hat! And when asked why they did'nt work up to the rule, very gravely answered, that it was too much trouble to carry the stick, and they thought the holes big enough! A fair specimen of *our* country work.

root grafted, vigorous and healthy. But I do not claim *all* this exemption from loss in the superiority of their planting. The immediate planting of the trees after their removal from the nursery, before the roots got dried—although some of them *did* get a good deal withered, as they lay for hours exposed to a drying wind and an open sun, (which was all wrong, for dirt should have been thrown over them,) I consider a great advantage. Nor were the roots extraordinarily well taken up. We worked sharp. I did not superintend all *that* part of it myself; but either my foreman or myself saw *every tree* well planted; held it up as the earth was thrown upon it, and shook it up and down as it was filled in, that the soil might become well incorporated with the roots.

I should like to show that orchard of trees to any one. Next spring I intend to mulch them as I did my others; and if they do'nt show growth, it will be strange. I ought to say, in giving you the whole story, that this thirty acres of land is in various crops this year: corn, potatoes, buckwheat, spring wheat, oats, white beans, ruta-baga, sugar beet and carrots, hoed and sowed crops, and the trees nearly alike in appearance over all; but if any difference, the trees in the hoed ground are the best. I intend ploughing all the land again the coming fall, chiefly for next spring *sowed* crops, when I shall seed the whole into grass for mowing; and in the ploughing, ridge the earth up to the trees in "lands" two rods wide, with a good "dead furrow" between each to pass off the surplus water.

I will further remark, that there were some low places in this orchard ground, as a small portion of it had never been ploughed before,—having been cleared off but a few years ago—and in pasture; and there are two or three low *swales* or ravines in it, where the water runs in the fall and spring. In these swales, where is a heavy, black soil, I set the trees on the top of the ground, or dug but very slightly for them, or even raised a table of earth to plant them on, as circumstances required, intending hereafter to throw the ground into proper shape by ploughing, and opening furrows and ditches, so that no standing water may remain. Ten acres more of ground I have left for orchard purposes, now in sod, which I intend to plough this fall and plant next spring, as I have before done; and this gives me 2,200 trees in my *apple* orchard,—completing, in all my fruits, a plantation of eighty acres of orcharding; after which, I intend to take a rest.

Mulching Srawberries with Spent Tan-bark.—Professor Coppock, in the July Horticulturist, recommends this; but I can beat him in the *trial*. In grapes, I give it up altogether; for I am not a grape-grower, and he is—an accomplished one, too. I know of none better.

Wishing to add some new varieties to my strawberry family, I sent, late last fall, to Mr. M. G. Warner, of Rochester, for one hundred each of Black Prince, Burr's New Pine, and Rival Hudson. He sent my order, principally filled, with three hundred of the handsomest plants I ever saw; some of them with roots, fresh and young, six to nine inches long. They were beauties; (everybody *do'nt* do so.) It was November. I planted them in a *spent* vegetable bed in the garden—clay loam soil—intending them for propagating solely. I had cut off my asparagus *haulm*, and after planting the strawberry vines *as they should be*, I covered them with the haulm, and laid a few sticks across to keep it from blowing off for the winter,—supposing it would give them sufficient protection. But not so. The winter was open and bare. Looking in upon my bed about Christmas, or New Year, I found that many of my vines were lifted out by the frost,—the haulm not lying close enough; and saw that I might

lose them if not better protected. I at once got a load of *spent tan*, and covered the bed thoroughly over with it, perhaps two inches thick, and let them go for the winter. Early in the spring I began to stir among them, and found them fresh and starting. I let them alone. In due time they came up vigorous and beautiful, and bore delicious crops, all clean and fresh, without a weed about them, far beyond my anticipations; and they are now running and striking in all directions, furnishing me with multitudes of plants for my new beds.

A word or two, now I am on the subject, as to the quality of the different varieties of strawberry, as I have found them.

Large Early Scarlet. The best berry *for a crop*, probably, taken altogether, that we have. A vigorous plant; a great bearer; fair size; of delicious flavor, and a beautiful colour. I planted, a year ago last April, a bed, in ridges three feet apart, fifteen inches apart in the ridge, on moderately good clayey loam, with only ordinary care; wed them but twice, and let them all run together, on about twelve square rods of ground. Last June I gathered about two hundred and sixty quarts of berries from them, and would have got over three hundred, but the severe drouth which came on when they were about half picked, pinched them so that they did not fill out, and reduced their size full one-half.

Hovey's Seedling. Large in size, and coarse in flavor, *of necessity**—yet quite a favorite; and, with good, rich culture, and plenty of staminates among it, a tolerable bearer. Not fit for a *crop*, yet I would always cultivate it for *variety*.

Boston Pine. A fine large berry, and of good flavor; wants rich culture; but the stem is too short; does not throw its fruit high enough from the ground; yet a good fruit, and, like the Early Scarlet, not requiring the admixture of other kinds for fertilizing. It is a few days later than the Scarlet.

Burr's New Pine. A splendid, and a good fruit; one of the very best. Large enough, early, prolific, fine in colour, and of the highest flavor; it promises well for a crop, and ripens with the Early Scarlet.

Burr's Rival Hudson. The most prolific that I have seen. Deep red, almost crimson in colour; slightly necked; fine rich flavor; fruit beautifully set in clusters of five to eight or ten berries on a *high* stem, and frequently all ripe together; a few—say three or four—days later than the New Pine in ripening. The most beautiful *growing* berry I have known.

Black Prince. With all Mr. Downing's, and other eastern praise of it, it does not prove equal here. The colour is bad—too dark to be delicate; flavor insipid, or sour; a low, branching, straggling stem; and grown side by side on the same bed, and with the same culture as the two last named, is much inferior—not to be named in the same chapter.

I speak of all these as they have proved with *me*, in only one year's cultivation; which is, I grant, too short for a *thorough* trial. In the plantations of an acre or two which I am about making, my chief stock will be the Large Early Scarlet, Burr's New Pine, and the Rival Hudson, with a few Hovey's Seedlings.

But it is time to stop. I have made this long story about mulching, because I am satisfied that no labor to promote the growth of trees, *for the same expense*, can be made so productive as this; and I am now cutting many tons of coarse marsh hay for next year's use, and intend mulching everything of the *tree* kind which I cultivate, even to my currants and gooseberries; which last, with the

* *As a rule*, all *monstrous* fruits *must* be coarse. Extraordinary size must be obtained at the expense of *some* other quality in pretty much everything, both vegetable and animal.

addition of salt upon it, I fully believe, with some other of your correspondents, will prevent the mildew. And if any so simple proposition can avail, I shall try it *heavily* and broadly on a few plum trees, to see whether it will stagger the *instinct* of the curculio!

LEWIS F. ALLEN.

Black Rock, August, 1850.

ON RAISING PLANTS FROM CUTTINGS.*

BY M. NEUMANN, PARIS.

XIII. CUTTINGS OF LEAVES.—A single leaf cut near the stem and planted, is sufficient, in some plants, to produce new individuals. The leaves intended for this operation ought not to be pulled off the stem; there is no need of taking away the eye which shows itself at their axil; in this method of striking by cuttings it is not the eye which developes itself, as many people imagine; the effect which takes place is similar to that produced when cuttings are struck from the branch of Abies (see fig. 16.) It is upon the cluster of small bulblets which form on certain parts of the leaf, that the shoot shows itself.

Fig. 41.

Fig. 41 indicates at what place we may cut the leaf without hurting the plant; the leaf being placed in the earth forms a callus at its base, fig. 42, whence the roots, and consequently more shoots spring up.

Fig. 42.—*Cuttings of leaves of Theophrasta latifolia.*

Leaves intended for cuttings should be taken about the middle of a branch; the result is more certain than if we chose the lower leaves. Gloxinia, Bryophyllum, Lilies, &c., multiply well by such cuttings.

If we wish to get on very quickly, the midrib on the lower face of the leaf may be broken in several places, without injuring the limb, and so lightly that the broken places can scarcely be distinguished; the lower face of the leaf is then placed on the earth of a pot. Soon at each fracture a little callus developes itself, which gives rise to roots, as is seen in fig. 43.

Some leaves, when employed as cuttings, send out roots and buds at each incision, as, for example, in Hemionitis palmata, Bryophyllum, &c.—Fig. 44 shows how this effect is produced.

Fig. 43.—*Leaf of Gloxinia, prepared as a cutting.*

Cuttings of leaves are often a long time before they show any sign of succeeding; the care which they require is in consequence of their delicate nature; most especially, must attention be paid to burying the end of the petiole, or the base of the leaf. When their buds are strong enough they may be accustomed, by degrees, to the free air of the green-house, in which they are to remain, then treating them like cuttings from branches.

Having succeeded with the leaves, of which I have just spoken, I tried, in 1839, to multiply Theophrasta latifolia with its leaves cut in two, with which I made two cuttings;

Fig. 44.—*Leaf of Hemionitis palmata, used as a cutting.*

these portions took root and developed buds, as is seen in fig. 43. This experiment evidently proves that some plants may be reproduced by cuttings of the midrib of their leaves. The primitive bud, as I have remarked, rises from the callus above the root which first shows itself, and about 1-16th of

* Continued from page 65.

an inch from the base of the midrib. The dotted part, shown in the upper half of the annexed leaf, was removed in order to put the leaf into a little pot, but this did not prevent the success of the cutting.

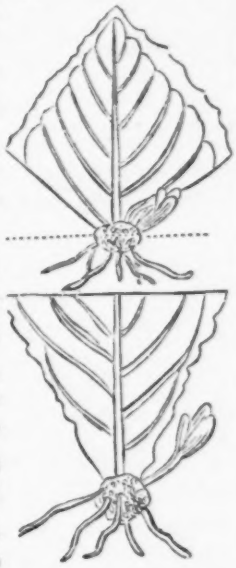


Fig. 45.—*Theophrasta latifolia, struck from cuttings of a leaf.*

Scale-Cuttings.—These cuttings are made with the scales of Liliaceous plants; such scales are planted either upright or flat, are covered with about 1-16th of an inch of earth, and are placed in an atmosphere neither too dry nor too moist: it is in this manner that quantities of Japan lilies are multiplied. Liliaceous plants are also propagated by cutting their leaves in two or three places along their length; such leaves do not send out roots, but they give birth, at their mutilated parts, to little scaly bulbs which, the following year, are separated, and afterwards managed like the cloves of bulbs.

Cuttings in Water.—This kind of propagation demands constant care and minute attention. We employ ripe wood, as in cuttings of branches. As soon as the roots commence lengthening, which we can easily see through the sides of the bottle in which the cutting is placed, we immediately take it out, and plant it in a pot, where it is treated as if it had no roots, until we see that they have reached the sides of the pot. The cutting is then sufficiently strong to be gradually accustomed to the atmosphere in which it is to live. I have thus made plants take root, which I have not been able to multiply by any other means. In consequence of the difficulties which this proceeding offers, I do not advise the practice of it, except for Pine-apples, when it is rather an amusement than a truly useful thing. A sucker, or better, a crown of a Pine-apple, previously dried, and put into a decanter or bottlefull of water, and placed upon the stove of a green-house, or of a room, and exposed to light, will grow and produce a small fruit, which will have as much fragrance as one grown in earth, (fig. 46.)

Fig. 46.—*A Pine-apple struck in water.*

Cuttings in Trenches.—The plan of striking cuttings in trenches is generally adopted in the Colonies for sugar-canes and bamboos. For propagating the cane, we use cuttings 10 or 12 inches long (fig. 47,) which we lay horizontally in a little trench 9 inches deep. We then cover them with a little earth, and in a short time they send forth roots and buds at each joint. The bamboo is multiplied in the same manner. If we lay a long stem in a trench, the young buds which come out of each of the joints will soon make a little plant. In green-houses, where the space does not allow of cuttings of this sort, bamboos are multiplied quite as well by placing them upright in the ground

Fig. 47.—*Cuttings of a Sugar-cane.*

XIV. Slit Cuttings.—There are some plants whose cuttings root best if a slit is made in their lower part, a piece of sponge being introduced, as at fig. 48; Carolinea, arborescent Bignonias, &c., take root well in this manner.

Layer Cuttings.—For plants difficult to strike I have thought of what I call layer-cutting (fig. 49,) from which I have obtained good results. This consists in making a lon-

Fig. 48. Fig. 49.
Cuttings of arborescent Bignonias.

gitudinal incision down the cutting; we then insert a wedge, to keep the wound open; without this precaution the two parts will soon join, and the operation fail. The upper part of the incision ought to be nearly level with the earth in the pot; it sometimes happens that the roots issue at one and at the same time from the slit and the base of the cutting.

Cuttings or Grafts upon Roots.—I have often employed the following method of striking plants which are difficult to multiply

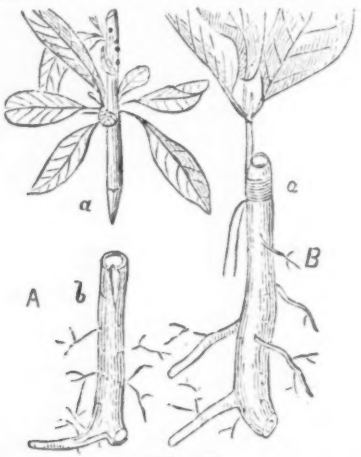


Fig. 50.

by cuttings. The process may be slit-grafting, as in fig. 50, or crown-grafting, as in fig. 51. The ligatures must be of worsted; care should be taken not to cover the upper part of the roots of these grafts, or at least very little. In such operations the cutting either adheres to the root as an ordinary graft, and pushes in the same way, or the root does nothing more than nourish and hold the branch fast with which it is in contact, until it forces it to send roots into the soil; the cutting is then on its own bottom, as we say. Tree Pæonies, Dahlias, &c., as everybody knows, are multiplied in this manner. The case where the branch joins itself to the root is rare; I have only observed it upon Grevillea, Morus, Averrhoa; there is every reason to suppose that by the same means we might obtain similar results on several other trees, and I propose to try the experiment on plants which cannot be multiplied by the ordinary means. In this sort of multiplication it is not necessary for the branch to be grafted on the same root from whence we have taken it; but we may work on individuals of the same kind, if we only take care that the root is in proportion to the size of the plant.

Striking Cuttings without Heat.—For some time past I have tried to strike without heat, hot-house cuttings, which do not like to root in tan. Cuttings of Bugainvillæa spectabilis thus treated have perfectly succeeded. Stephanotis succeeded equally well when struck either in cold or heat. I might conclude from this that we may obtain the same results in striking cuttings whether they are placed in heat or not; but this is for time to determine. Moreover, cuttings exposed to the high temperature of 36° centigrade (98° Fahr.,) will shoot with as much certainty as the same plants placed in a green-house, and subjected to a heat of only 7°, 8°, or 9° (45° to 50° Fahr.) In the last case, cuttings will only take when the sun raises the temperature to 25° or 30° (80° to 87° Fahr.;) but then, as they have to bear a low temperature at night, they will demand more time to root than those which, placed in a hot-house, are in the midst of an atmosphere nearly equal day and night. Attempts of this nature cannot be favorably tried in the autumn or winter, the temperature being then too low; we shall have more chance of success if the operation takes place in spring or summer.

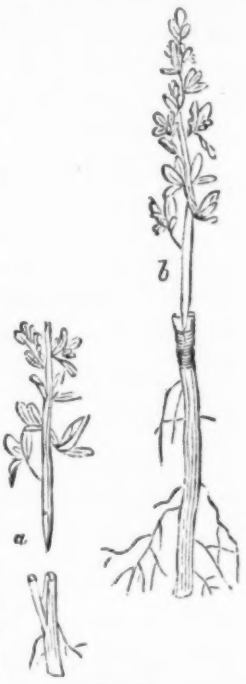


Fig. 51.

In conclusion, let us observe, that so many circumstances affect the method employed for multiplication by cuttings that we cannot foresee with any certainty whether we can succeed in striking even the less difficult plants. We must be constantly trying experiments, for the conditions favorable to vegetation vary according to the strength of the plant, and according to the temperature; moreover, the dryness or moisture of the atmosphere of the house, the earth which we use, the light or shade to which cuttings are exposed, favor or oppose their success. This, however, seems to be shown by practice, that the result is always more satisfactory in a house entirely shaded, than in that in which

light has free access; also that success is more certain in summer than in winter. The perseverance of a gardener ought never to be exhausted; he will be always discovering something worth knowing, and the results to which he arrives will recompense him for the care and patience expended in his experiments.

THE FRUITS AND FRUIT TREES OF MOROCCO.

BY T. H. HYATT, LATE U. S. CONSUL AT TANGIER.

A. J. Downing, Esq.—*Dear Sir:* Knowing the deep interest you take in all horticultural subjects, and particularly in that branch which relates to Pomology, or the culture and and production of fruit, and appreciating, in some measure, the great pleasure and instruction, which, in common with thousands of my countrymen, I have derived from the perusal of your valuable works on these subjects, and from your excellent Magazine, I feel it a pleasant duty to add my mite, small as it may be, towards forwarding the laudable objects of your publication, by communicating such items of knowledge in relation to the Fruits and Fruit Trees of this strange country, (about which so little is known abroad,) as may be pleasing to you, and interesting, if not instructive, to your readers. And I propose to illustrate the size, form, &c., of some of the kinds of fruit I shall describe, by such drawings as I have taken, from time to time, and which I happen to have at hand.

The Empire of Morocco, from the Great Desert to the Straits of Gibraltar, or the borders of the Mediterranean, embraces a latitude of about seven and a half degrees—extending from lat. 28° N. to 35° 48m. Within this territory the climate is mild, uniform, and remarkably temperate. There is never any snow, and seldom any ice or frost, excepting upon the summit of the Atlas Mountains, or in their immediate vicinity; and these perpetually snow-clad mountains stand as an everlasting and effectual barrier to check the dire sirocco of the desert, and to prevent the blasting winds from sweeping over and laying desolate the fruitful regions of the Empire which lies to the north of the mountains; and while the winds are thus disarmed of their noxious and withering power, and made bland and genial and invigorating, the waters which flow from these perpetual fountains of irrigation, replenish the streams and rivulets, and distil their fructifying influences upon the plains and vallies, far and near. Thus wisely does the God of Nature ordain all things.

With such a climate, and with a soil naturally rich, fertile and deep, and possessing the elements of indestructibility to such a remarkable degree as never to seem to wear out or deteriorate—what might not be produced by an enlightened system of culture! And yet, with the semi-barbarous modes of culture which prevail, or rather in spite of them, some of the finest kinds and qualities of fruit in the world, are produced in this country. Most of the tropical fruits, and many of the more hardy, grow here, in perfection. The former succeed, however, better than the latter, and are much finer. In the gardens and plantations about Tangier, Tetuan, Lareche, and, I believe, nearly all the principal cities of the Empire, the Orange and Lemon, the Olive, Pomegranate and Fig, the Lime and Citron, the Apple, Pear, Plum, Cherry, Peach, Apricot, Quince, Almond, Mulberry, &c., as well as the vine fruits, the Grape, Strawberry, Blackberry, &c., are cultivated more or less extensively. But let us treat of them more in detail.

THE ORANGE AND LEMON.—These are exceedingly fine and grow to great perfection. The fruit is usually above the medium as to size, and sometimes it is quite large, as will be seen by the above drawing of a lemon raised in a Moorish garden on the eastern slope of Mount Washington, some two miles west of Tangier. The trees are in blossom nearly or quite every month in the year, and the fruit of the various kinds is fit for use from September to June, and will remain upon the trees nearly that length of time, if left unplucked. The same trees have on them fresh blossoms and ripe fruit at the same time—and thus produce a succession or continuation of fruit for nearly three-fourths of the year. The trees, although slow of growth, grow to a large size—I have seen some with bodies over a foot in diameter, and from twenty to twenty-five feet high, with tops large and branching in proportion. In cultivating, the Moors graft the young seedling, when two or three years old, as they stand in the nursery, by cutting off the stock near the ground, and inserting the graft in a manner similar to our "whip grafting." The best age for transplanting the young trees is at two or three years from the graft. The transplanting may be done at any time during the winter, *when the trees are not only in bloom, but in fruit*. This is quite the reverse of the theory and practice we have in the States, on this point. But I have tested the the truth of it. In January, 1849, I procured about fifty young orange and lemon trees from the garden or nursery of the Moor at Mount Washington, (above alluded to,) of from three to six years growth from the graft. When taken up, nearly all of them were in blossom, and several had on them full-grown fruit—and, with the exception of two or three which were too old to be transplanted successfully, they all lived and grew thriftily; some which had fruit on when they were taken up, bore also the following season. These trees, like all others, are planted very deep. At first, on seeing what a deep pit my Moorish gardener was digging for them, (some three feet,) I said to him that he was digging their graves. "*No, mazian*"—very good, replied he. And I found this deep planting to be necessary, in order to have the advantage of the moisture which could not be obtained near the surface of the earth. And as there is no hard pan in the soil, the roots penetrate to a great depth in the light, porous earth.

There are a number of large Orangeries in the neighborhood of Tangier. The Bashaw of Tangier has a very fine one, embracing, I should judge, eight or ten acres, and some 500 thrifty trees. He has also a still larger one at Lareche, his summer residence, some 60 miles from this, on the Atlantic coast—which I visited in November last. This plantation contains about fifty acres, and perhaps 1000 trees in full bearing—many of them quite large. There is a fine stream of water running through the plantation, with reservoirs, fountains, and conduits, for irrigation, that impart to the whole an appearance of freshness and fertility. In the midst of these Elysian bowers, with pretty summer houses hard by, the Bashaw has luxurious bathing fountains, where he at times regales himself, and where, occasionally, the dark-eyed houris of his harem are permitted to indulge in their favorite luxury, with all the voluptuousness of oriental life.

Some of the finest orange groves that we have seen, belong to the Bashaw of Tetuan. On a visit to Tetuan, in December, we were invited to breakfast with His Excellency of "many tailed honors," at his castle. The table was spread in a beautifully arched alcove of the palace, with a trellised, vine-covered arbor connecting it with a lovely marble fount, with its sparkling, chrystal waters swimming with gold and silver fish, and these of many a variegated and brilliant hue. Spread out beyond and around these, was a pretty flower gar-

den, redolent wirh the spicy perfumes of the various aromatic flowers and plants which embellished this little rural elysium. With such an enchanting outward view, little recked me of the savoury viands or the rich plate of gold which adorned the table before us. After our repast, I took a stroll through these flowery labyrinths, while my little daughter, (*Jenny*,) was conducted into the harem, to have a glance at those cloistered beauties, a view of whose charms is contraband to all lords of the creation, save their own royal master. Much as I am devoted to the beauties of outward nature, I must confess that my thoughts would occasionally stray from the floral beauties around me, to those languishing beauties within. And if the glance of a sparkling black eye, and a bewitching smile, and a look of ineffable roguery, thrown obliquely from the barred windows of those upper chambers, were contraband salutations, who would not be the contrabandist to welcome them?

Pardon this digression. I did not intend to reveal the secrets of the harem—nor could I, if I desired, give a minute description of those retreats around which so much marvellous and romantic mystery is interwoven. Those among our friends who have the curiosity to gain further particulars under this head, are referred to the "*Yarns of our spinning* JENNY"—they will speak more authentically than can the writer of this.

The Bashaw invited us to visit his gardens and orange groves, of which he has a number in the vicinity. They were better improved, and in finer condition, than any other Moorish gardens we have visited. The grounds and walks were clean, and the trees thrifty and fruitful. The oranges were larger than any I had seen, and were sweet, and of a delicious flavor.

Orange and lemon trees are usually planted in rows, about twenty feet apart, each way; and the branches often meet together. The largest and most forest-looking trees I remember to have seen, were in an old garden near Argelia. The Moors seldom trim their trees—they are allowed to grow in all the wild luxuriance of nature. While injurious in some respects, this system is beneficial in one, at least—it keeps the earth moist beneath them.

These trees require a great quantity of water; and as it never rains in this country through the summer, they require to be watered by artificial means. The fruit may be bought here, in its season, at twenty to twenty-five cents a hundred—or much less by the wholesale.

The LIME and CITRON grow here in perfection. Their culture, mode of treatment, &c., are similar to that of the orange and lemon.

THE PALM, OR DATE.—Although there are several thriftily growing trees of the Palm in Tangier and vicinity, they bear no Dates.

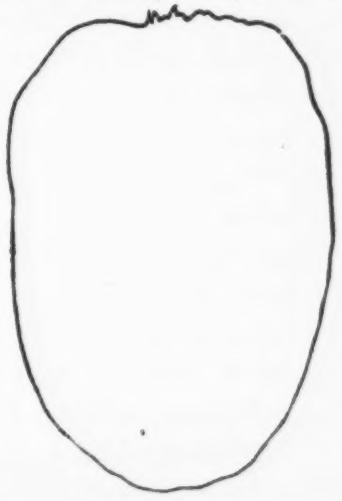


Fig. 52.—*Dried Date.*

And I believe none upon the sea-coast ever produce fruit; it is said that the salt-water air is prejudicial to the growth of the fruit. But the dates that come from the interior of the Empire, or from the borders of the Desert, are the finest I have ever seen from any country. The above is a drawing of one selected at random from a box I have purchased to take to the States with me. The fruit is

exceedingly rich, sweet, and nutritious. The natives are said to live almost wholly upon them in the regions where they are produced; and who could ask for more luscious or luxurious food? I have a young Palm tree in my garden, which was sent me from Rabet, but whether it will also turn out to be barren, remains to be seen. Dates sell in this market at from 10 to 15 cents per pound.

THE FIG.—This most delicious fruit is produced in great abundance, and to great perfection. Go where you will, from the patio of the humble dwelling in the city, to the

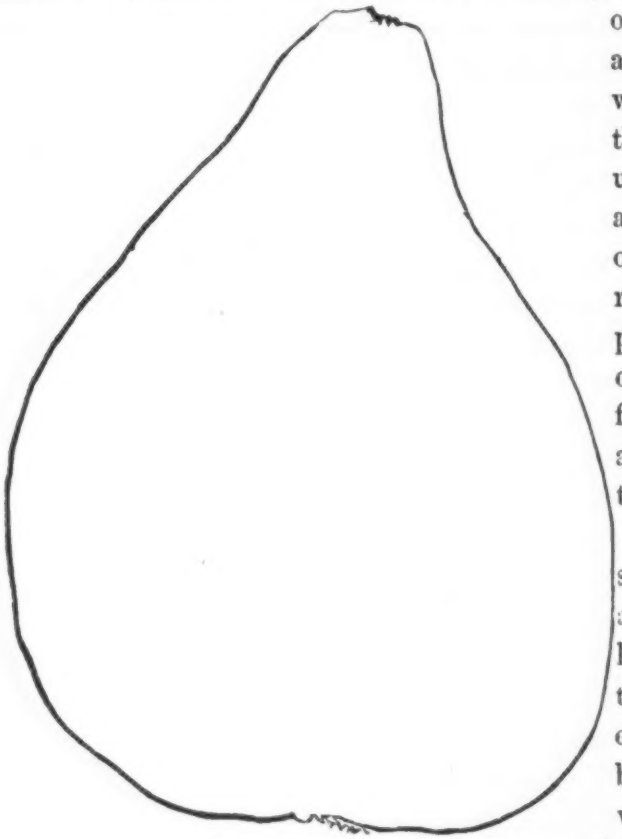


Fig. 53.—*Green Fig.*

garden of the suburb, or upon the fertile plain, or the rugged hill-side, or the rocky mountain-top—you will see this ancient tenant of the garden of Eden, throwing out its scraggy, drooping branches, covered with its broad leaves of glowing verdure, affording a luxurious shade for man and beast, from the fierce rays of the scorching sun, as well as food to appease the appetite, and that too, of the most delicious and refreshing kind.

You will perceive by the drawing above, that the figs produced here are of extraordinary size. With most kinds of fruit, the largest are apt to be coarser, and not of as rich a flavor as the medium or smaller size; not so with these figs. I have never tasted more delicious fruit of the kind than these same samples from which these drawings were taken; and they were selected promiscuously from the desert-dish of our breakfast table.

From the first of June until the last of autumn, we have the fresh fig in all its luxurious varieties—large and small, green, black, and wine-colored; on breaking them open, when fully ripe, the jellied juice drops from them like the purest honey, and quite as luxurious; it is the nectar of Pomonia. They are wholesome as well as nutricious—but few of them are ever dried—I believe the main reason to be, because, where every one has a plenty of fresh fruit, at all seasons, few think of preserving for future use. The dried figs from the country, brought in by the Arabs, are not very good—care is not taken to select the best, nor to keep them clean.

The first appearance of the young fig in the spring, is very singular and unique. As early as February or March, and before a single leaf or bud begins to appear upon the tree, the young fruit is seen springing out at the extremity of the several branches and lateral boughs, in regular shape, though small,—without waiting, like most kinds of fruit, for the complimentary ceremony of being ushered into being in the wake of the usual floral pioneer. This appearance, however, although singularly interesting, is not, I presume, peculiar to the fig of this country. In trees of later bearing, or in the second or third crop, which is often produced upon the same tree, during the season, the fruit does not appear until the leaves are fully developed; sometimes the figs continue to start out after the leaves

have fallen from the tree, which usually takes place in August.

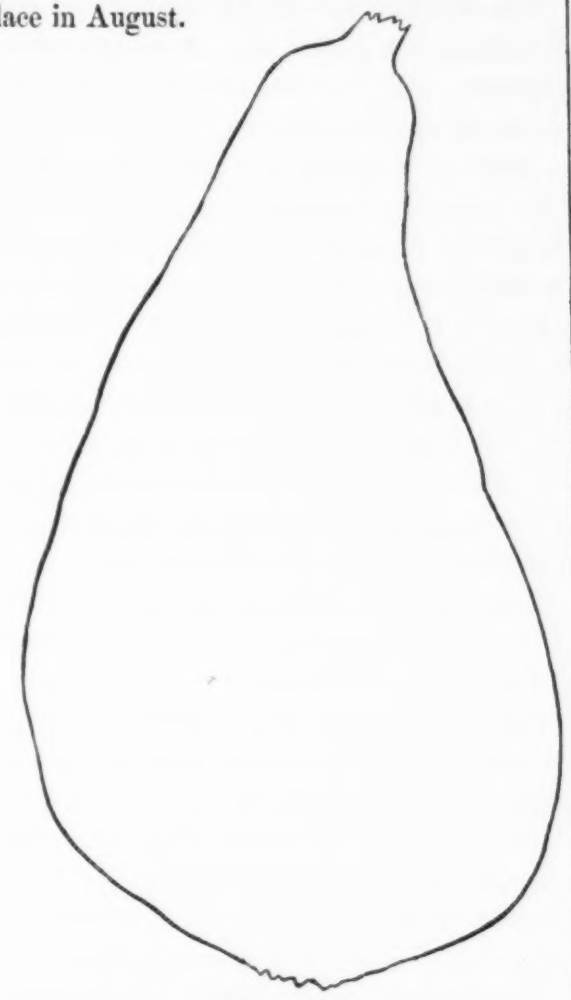


Fig. 54.—*Black Fig.*

The fig tree grows to a large size in this country; some which I have seen I should judge to be nearly two feet in the diameter of the trunk; they do not grow very high, and the long, slim, drooping and spangling branches often sweep the ground on all sides; the leaves are very large; often measuring a foot in diameter. Some of the trees are barren and unproductive, and remind us of the "barren fig tree" spoken of by our Saviour. The growth of the fig is rather slow, but it lives to a great age in this country—some that I have seen, appear to be over a century old. They seem a very hardy tree, and I do not understand why they might not be cultivated in some of the Northern States of the Union; although, if I recollect aright, there are few, if any, reared successfully north of Virginia. Fine, fresh figs may be bought here during the season, for about three cents a dozen. Very many of the Moorish and Jewish houses in the town have large branching trees growing up in the centre of their patios or courts, which furnish a most cooling shade, as well as delicious fruit. They also give to the town, as you look down upon it from some lofty tower or observatory, quite a rural and picturesque appearance—and afford a great relief to the eye from the dazzling and almost blinding effects of the snowy white, with which nearly every house is colored.

The Pine Apple and Banana.—Of these delicious fruits, there are but few cultivated, that I am aware of, in this Empire. A few plants of the latter are to be found in the beautiful gardens of the Swedish Consul General, just outside of the town, and they appear thrifty and fruitful. And the Pine Apple, I have no doubt, would grow here in perfection, if it were but introduced.

The Vine.—The Grape grows here spontaneously, and is cultivated largely and successfully in the various gardens and vineyards which abound in the vicinity of the large towns and villages. Although comparatively little pains seem to have been taken to obtain the finer qualities, yet I have eaten of a number of varieties here, that are little, if any, inferior to the best Malaga, Muscatells or Blooms. Both of these superior kinds of grape are to be found here, as well as many other excellent varieties scarcely inferior to them in quality—in fact, I think that some of the smaller white grapes, excel, in their rich, musky flavor, and in melting juiciness, those far-famed and justly favorite varieties, although they are not as large and beautiful. Many of these choice varieties are, I doubt not, indigenous and peculiar to this country, but are without any appropriate name. Many of the black ones, although of a sweet, pleasant flavor, are too

pulpy, and not so juicy and rich as the lighter colors. There are a few however of a wine color, long and tapering, (sometimes over an inch in length,) that are nearly if not quite equal in richness to the white. These we call the "Ladies' fingers."

We have ripe grapes here from about the first of July until late in October — and they can be bought at about one dollar per hundred pounds. Very little wine is made here, as the Moors are prohibited, by their religion, from making, vending, or using, any kind of spirituous or vinous liquors. The Jews, however, who are not allowed, by their creed, to drink any wine or spirits manufactured by Christians, make their own wine, which is but poor stuff, and also a kind of liquor, called *aguadiente*, upon which they contrive to make themselves merry, all "according to the laws of Moses," of course!

The vine flourishes upon nearly all kinds of soil. Many of the vineyards in this vicinity are upon pure, dry, light *sand banks*, which have been blown up from the sea-shore. The leaves begin to fall in August, while the fruit is still ripening; and late in winter, before the vines start, they are trimmed, all the lateral shoots cut off, and nothing but the main branches left. Some of the more indolent of the natives turn in their calves, donkeys, &c., and let them browse off the superfluous branches—quite a labor-saving operation, as they think!

Although the vines grow thus well upon barren soils, I took pains to manure my little vineyard, and I think I had an increase both in the quantity and quality of my fruit. The vines are usually left to run upon the ground, excepting when they are used to cover arbors, trellised walks, &c.

THE OLIVE is produced here in abundance. The wild olive tree may be found scattered over all the country; but they are but little cultivated along this part of the sea-coast. In the interior they flourish, and large quantities of oil are made for exportation, beyond what is consumed in the country. The green olives, preserved in spirits, make a very pleasant and palatable kind of conserve.

THE POMEGRANATE.—This tree, with its rich crimson ornamental blossoms, and its beautiful fruit, is to be found in almost every garden. The trees grow as large as the larger sized plum tree in the States. The pleasant acid of the fruit is relished by many people; but it is rather too "seedy" to be a general favorite.

THE ALMOND is produced to a considerable extent, and quantities are raised for exportation. Those raised in the Reef provinces are the finest I have observed, and I think I have never seen better. Few are produced in the region of Tangier.

The *hardy fruits* do not flourish as well in this climate as do those of the tropics. Among those that succeed best, is

THE PEAR.—This tree grows to a large size, but as it is never trimmed by the Moors, it has none of the tall, elegant, pyramidal, or lofty spiral shape which that tree assumes in America; but, on the contrary, it throws out its long, teeming branches from near the foot of the tree, to a great distance, in an almost horizontal direction. From a large pear tree in our garden, we cut a branch *twenty-five feet* long, which sprang out of the main trunk within four feet of the ground, and extended in a direct horizontal line, so that its lateral boughs almost swept the ground, and altogether it covered a space of nearly fifty feet in diameter. The Moors thought me beside myself on seeing the cutting and slashing I made among the superfluous branches of the various trees of the Moorish garden I had bought. But they soon saw, by the increased size and quantity, and the improved quality of my fruit, that there was some "method in my madness," and some reason in my philos-

ophy, if I were not "a son of the Prophet."

The fruit of the pear does not grow to a large size, but it is often of a fine, juicy quality. The drawing I send, is from a pear taken from the large tree in my garden, just alluded to. In its fine flavor, and juicy sweetness, it somewhat resembles our Seckel. It ripens early in June.

THE APRICOT.—The tree grows luxuriantly, but the fruit is usually small, and of inferior quality. If first rate kinds were introduced here, I doubt not they would succeed well. They ripen in May. That drawn, is from Gibraltar, and was probably raised in the south of Spain.

NECTARINES are seldom to be met with here. STRAWBERRIES and BLACKBERRIES grow here, but not of so fine a quality as in the States. We have ripe strawberries here as early as February, and until July. RASPBERRIES are rarely seen. The *Strawberry Tree*, growing wild upon the mountains, produces great quantities of fine fruit, as large as a medium-sized apricot, and very palatable, as well as exceedingly beautiful, with its rosy cheek, and luscious, strawberry-like appearance. I call them the "*Mountain Strawberry*," for want of a more appropriate name.

Of APPLES, PEACHES, PLUMS, CHERRIES, and QUINCES, there are a plenty of full-grown trees, but the fruit is not fit to eat. But whether it is the fault of the climate, or the people in not introducing the choice varieties of these fruits, I am unable to state from actual demonstration. I procured from Western New York, in the winter of 1849, a choice collection of these fruit trees, and planted them in my garden, in the spring of that year. They were packed at Rochester in the late autumn, but were detained in New York awaiting the sailing of a vessel so long that they did not reach me until about the first of June. On unpacking them, I found that the peaches, apricots, and nectarines, were all dead and dried up, while some of the other kinds were bursting their buds and beginning to grow. I suppose the former were killed by the frost, while in New York, or before reaching there. Those that survived, I planted immediately in my garden—and nearly all have lived, and they grew finely the first summer, (some of the apples blossoming,) and the following winter and spring. Among those now growing thriftily, are the Belle de Choisey and the May Duke cherry; one or two kinds of quinces and plums; and of apples, the R. I. Greening, the Newtown Pippin, the Holland Pippin, the Red, White and Yellow Juneating, the Belleflower, Spitzenburg, and the Northern Spy—this last, (and a favorite of mine it is,) out-strips all the others in its thrifty and rapid growth. Whether these trees will produce their fruit in all the luxurious perfection of their own native soil and clime, or whether their delicious qualities will become deteriorated by being transplanted into this land of burning suns and snowless winters and perpetual verdue, remains for time to determine. A few years will solve the problem.

I never knew how to prize the delicious fruits of my own dear country, until since I have been deprived of them, by a two years' residence in this "Land of the Moor." And many is the time that I would have given a dozen of our best oranges for one of your fine Pippins or Northern Spys, or for a single luscious peach, or a handful of the delicious cherries of Western New York. And but for the luscious fresh figs and delicious grapes of this country, I fear that my hankering after the "fruit pots" of my native country, would have been unappeasable.

But I have spun out my communication to a tedious length, I fear, and I will therefore close. Hoping to meet you in September, at the State Fair in Albany, over a dish of your finest Pippins or Seek-no-furthers, I remain,

Very truly yours, T. H. HYATT.

Tangier, July 4, 1850.

A VISIT TO THE NURSERY OF THORBURN & CO.

BY A SUBSCRIBER, PHILADELPHIA.

As this is now the period when the Dahlias are in all their glory, and being an ardent admirer of this queen of autumn flowers, I determined to pay a visit this season to the well known nursery of Messrs. THORBURN & Co., at Astoria.

On jumping from the steamboat on the pier, at Astoria, the grounds are straight before you, about 200 rods from where you land. The grounds in front of Mr. THORBURN'S house, and lying next the street, are by no means like a nursery, and would not be taken for one by the stranger, who had been visiting the New-York nurseries. No green-houses are to be seen; and on entering by the front gate, you imagine yourself into the grounds of a private gentleman, who had been afflicted with a monomania for Dahlias, and had planted his ornamental grounds full of them, to the exclusion of everything else. Such was the idea which impressed itself on our uncultivated fancy, as we stood in the midst of that splendid collection of Dahlias, without as yet knowing whose ground we stood upon; for we were perfect strangers, both to the grounds and the proprietors of them. But this makes no difference here; all are welcome. On entering by this gate, the walk leads straight up the centre of the ground, until it approaches the mansion of Mr. THORBURN, when it diverges to either side, and leads to the nursery and green-houses. The whole of the ground between the mansion and the street, is occupied with Dahlias,—each side being bounded by fine specimens of the different kinds of Coniferæ and hardwooded trees, from twenty to thirty feet high. This gigantic bed of Dahlias is arranged and named with exquisite taste—the labels so plain and legible that you may read, as you walk along the path, without treading on the raked ground. Their colours were beautifully blended together, so that the eye rarely met with any violent or offensive contrast; and their heights were so adjusted as to fall gradually towards the walk on each side. Upon the whole, though we are somewhat fastidious in our taste, we must confess that the treat fully equalled our anticipations. We have never seen a mass of Dahlias arranged with so much taste, and displayed to so much advantage; the whole being kept scrupulously neat and clean, and—notwithstanding the unfavorable weather lately—displaying a profusion of blooms. After feasting ourselves on this fine assortment of Dahlias, we turned from the scene, fully satisfied that our own collection was defective, and our culture too.

It would occupy too much of your columns to name all which attracted our notice; but as many of your readers are anxious to know the merits of the newest Dahlias of the season, I will name a few which merit peculiar attention: Sir F. Bathurst, a spendid flower, one of the very best; Queen of the East, very fine; Magnificent, splendid, should be in every collection; Elizabeth, undeniably the finest fancy Dahlia yet grown; Madame Valiere, very fine; Grant Thorburn, form good, excellent habit, altogether a leading Dahlia; Duke of Wellington, below our standard, sometimes comes very good, but we do not think it a constant variety; Gaiety, a very pretty flower, and always good; Grenadier, strong grower and large flower, but somewhat coarse; Beauty of Hastings, a very fine flower; Duchess of Sutherland, fine fancy

white; Highland Chief, a beautiful tipped flower; Striata perfecta, a good variety, but we have rarely seen it well grown, being always small, loose, and open in the heart; Keepsake is a superb flower, and Flying Dutchman one of the first fancy Dahlias grown.

Proceeding through the Dahlia grounds towards the house, we passed a group of large Conifers, Acacias, Banksias, and other New-Holland plants; also, in the same group, some very large plants of the Sicus Rivulata. In front of the house were arranged some fine rare plants, of different species; but what fixed our attention more than any other in this group, was a Double variegated Pomegranate, with flowers as large as a good sized Camellia, and perfectly double. We had never seen this admirable shrub before, and consider it one of the finest things we ever saw. On showing a single bloom, which we carried with us, to a botanical friend, he thought it was a hollyhock, which at a distance it somewhat resembled. We believe this remarkable shrub came from China; but it is still very rare, for we have not seen it in any collection in this country or elsewhere. Perhaps Mr. THORBURN would oblige your readers with some account of it; for it certainly deserves to be better known, and more widely distributed.

Turning to the right, you approach the green-houses, passing a small flower garden, appropriated to exotics chiefly. We observed here in great perfection, for the first time, the new Zauschneria, a new Ipomea, and various other new plants. We cannot omit to notice a plant of the Dianthus barbatus—quite a novelty in its way; its beauty exceeded anything of the kind we had seen before. It forms a compact globular truss, very close and double, with massy petals and dark colour. We regard it as a valuable addition to the herbaceous family.

In the green-houses, we found many fine plants, which the length of this renders it impossible for me to mention in detail. Splendid collections of Fuchsias, Geraniums, Camellias, Azaleas, and summer flowering plants in great variety. We were much gratified with our visit to these nurseries, and feel assured that others who may visit them will be the same. A SUBSCRIBER.

Philadelphia, Sept. 14th, 1850.

VISIT TO MR. RIVERS' NURSERIES, SAWBRIDGEWORTH, HERTS.

AMONG the many *commercial* gardening establishments which we have visited on this side of the Atlantic, we have found none more thoroughly interesting in all its details than that of Mr. RIVERS. We lingered nearly two days with Mr. RIVERS, (who, we must be allowed to say, is not only a horticulturist of great ability and experience, but a thoroughly agreeable and cultivated man,) and could not but feel that twenty four-hours spent in carefully investigating the nurseries here, would well repay any of our intelligent young nurserymen for the trouble and expense of a voyage across the Atlantic.

The distinctive feature of the establishment, as compared with most others in England, is to be found in the improved modes of propagation, culture, and adaptation to the wants of the time, which it exhibits in every department, while, in most of the English nurseries, one notices that a certain routine, often excellent in many respects, is followed, without change, from year to year; here, on the contrary, it is in the highest degree interesting

to see the greatest intelligence and science brought to bear on every side, in order to enlarge the scope of gardening and cheapen the cost of propagation and culture of trees and plants. Instead of catering chiefly for the great proprietors, and keeping up the prices of all new and rare trees, Mr. RIVERS' greatest desire seems to be to introduce and propagate so largely as to afford at very moderate prices, every thing which promises to be an acquisition, either in a useful or ornamental point of view to the gardens of the large middle class of England. Hence the extensive trials of fruits which Mr. RIVERS has made of varieties collected from all parts of the world; hence the system of root-pruning, dwarfing, and pyramidal pruning which he has so successfully introduced. The result of all this has been to bestow on thousands of cottage gardens and the grounds of noble proprietors, to whom wall-fruit is so costly a luxury, an abundant supply of fine fruits upon trees easily cultivated in a limited space.

It is, perhaps, with respect to *fruit trees* that Mr. RIVERS' nurseries are more conspicuously in advance of all others in England. Indeed we do not hesitate to say that we found his grounds considered mainly as an experimental school of *pomology*, more interesting than those of the Horticultural Society of London. Mr. R. has, in addition to his nurseries, planted large quantities of standard and pyramidal fruit trees—especially pears—as orchard fruit for supplying London market. Of the extent of those plantations our readers may judge when we state that we saw, in this part of the establishment, 2300 standard trees of that valuable variety of pear—the Louise Bonne de Jersey alone; and perhaps as many more of each of the following: Bartlett,(William's Bonchretien) Vicar of Winkfield, Capiaumont, and two or three other equally popular and productive market sorts. These trees are planted about 24 feet apart—the intermediate space partially cropped with young trees, and the pear trees themselves allowed to grow pretty freely in the common standard form. The luxuriance and productiveness of these trees proved to us that the scarcity of standard fruit trees generally in English gardens, is as much owing to a want of knowledge of the sorts best adapted for the purpose, and the proper mode of cultivating them, as to the unsuitableness of the climate—inferior as the latter is to the United States for the culture of most fruit trees.

Besides this kind of orchard planting of fruit trees, Mr. RIVERS has collected, and is constantly collecting and proving, in various parts of his grounds, what he terms "schools of pears," "schools of plums," and all other fruits; that is to say, quarters or plots of ground, where all the new varieties are planted only, labelled, kept distinct, and cultivated till the good or bad qualities have been thoroughly tested. Very few nurserymen ever thought it worth their while to do this until the labors of the London Hort.Society awakened in the minds of fruit growers the folly of growing a poor variety upon a soil that would just as easily produce a good one. Now many nurserymen, both in Europe and America have followed the example, and the advantages, both in point of the genuineness of the sort propagated, and its adaptation to that particular district of country, can scarcely be estimated too highly. Mr. RIVERS' "schools" of experimental trees are, however, unusually rich, and are continually augmented by the introduction of every new sort of repute, which is originated either in Europe or America.

Among the novelties likely to be most valuable in the United States are noticed a new hardy grape—the *Purple Fontainbleau*. We saw a large number of this variety growing in the open air, with all the vigor and luxuriance of our Isabella grape at home, and from the appearance and the account Mr. R. gave of this sort we cannot doubt that it is worthy of

extensive trial in America. The vine is very luxuriant and very hardy—much more so than any foreign grape yet tried in England. The leaves and wood are smooth—the foliage large and of a rich deep green. The branches are large, well formed and shouldered, and are produced in great abundance—even when the vine is simply trained to an upright pole. The berries are between the size of the Burgundy grape* and the Sweet-Water,—oval, dark purple or black, without pulp, sweet and excellent flavor. Though this variety is undoubtedly of French origin, Mr. RIVERS has not been able to find it, at the present time, in France,—the original root from which he has propagated his stock of it existing in an old garden in England into which it was brought from France many years ago, and has remained comparatively unknown. Mr. RIVERS with his characteristic feeling, is propagating it very extensively in the hope of being able to offer it as a perfectly hardy and productive grape for the cottage or gardens of all England. We hope our nurserymen will also introduce and propagate the Purple Fontainbleau, so that it may be fairly tried at home. If it does not prove all that we could wish, in itself, it can scarcely fail to be the best variety to grow along with the Isabella and Catawaba, in order to produce new hybrid sorts entirely adapted to hardy culture, a desideratum at present so greatly sought after in the United States.

Rivers' Early Prolific Plum—a seedling, which originated here, was in full bearing. It is a roundish-oval, purple plum, nearly as large as the Orleans, and is so great and constant a bearer, and ripens so early, that it proves an exceedingly profitable variety. This fruit is just coming into bearing in America, and will no doubt prove equally valuable there. In flavor it is equal to the Early Morocco, while it is far superior to it in productiveness, in the hardiness of the tree, as well as in ripening its fruit earlier in the season. *Reine Claude de Bavay* is considered here one of the most valuable of all the new plums—being not only excellent but very productive. Our best plum—the Jefferson—maintains its high character in England. The most valuable of all the new varieties of grapes for the vinery, according to Mr. R., is a white grape, known as the *Gros Coulard*, or new Sweet-Water. It resembles the Sweet-Water in flavor and color, but is much superior in the size of both the bunches and the berries—so much so that it will probably quite supplant the old sort.

A large plantation of the monthly everbearing Raspberry attracted our attention. The young canes were loaded with fruit. The best of all currants Mr. R. holds to be the large bunched Dutch.

A singular mode of growing stawberries in pots for forcing is practiced here with great success, and is the same as that pursued by one of the most celebrated English market gardeners. It consists in growing the plants in pots filled with good soil (say $\frac{3}{4}$ loam $\frac{1}{4}$ rotten dung *pounded down* in the pot quite hard with a mallet.) After the pots of soil are thus made ready, they are placed along side of the beds, when they are just beginning to throw out runners—for example at the commencement of June. The ends of the young runners are fixed on the soil in the pot, where the plants soon strike root and fill the pot with an abundance of roots. It is then removed to the frame or forcing pit and treated as usual. The increased size, vigor and productiveness of the plants and fruit grown in these closely rammed pots, are, we were assured, undeniable. This method is opposed to all the ordinary theory and practice, which depend upon making and keeping the soil loose and mellow. Will our readers speculate upon and explain the new problem in horticulture which it presents?

The Dwarf Prolific Walnut, (Noyer fertile,) a shrub, rather than a tree, bearing good crops

* It is evidently one of the Burgundy *class*.

of what are called "Madeira nuts" at home and Walnuts here—even when only 6 or 8 feet high, is cultivated here, and would be an acquisition in American fruit gardens.

Thousands of young fruit trees, in the finest health, occupied the nursery quarters—the establishment enjoying a higher reputation than any other in England for fruit trees, and probably doing ten times as much business in this department as any other British nursery.—The American trade is very large, and great quantities of both stocks and approved sorts of fruits as well as Roses, were despatched to the United States last season. Mr. RIVERS' mode of forcing dwarf pyramidal pear trees is already well known to our readers, by his articles in a previous volume. Its two great features are shortening the roots every year or every two years, supplying an abundance of food to them by suitable manures,and stopping the growth of terminal shoots twice in the growing season. There can be no doubt that by this mode the finest pears may be grown in soils, and climates too, unfavorable for standard trees; and that, by this means of forming a highly productive tree, which occupies only a couple of yards square of space, a handsome and valuable collection of fine fruits may be grown in the smallest gardens, viz: those of cities and the suburbs of towns. Small pear trees on quince stocks, 4 to 6 feet high, ready formed as pyramids, and with fruit buds upon them, may now be had from the Sawbridgeworth nurseries. We hope this mode of cultivating pears for sale will be largely practiced by our growers at home. The Angers quince stock which is preferred here to all others as a bottom for pears, is easily distinguished from the common variety by the comaprative absence of wooly down on the under side of the foliage, as well as the rounder form of the leaf itself. It is a remarkably free-grower, and (which is a great merit) it is almost as easily propagated from cuttings as the common currant—while the ordinary quince, as is well known, is very shy of striking root in this manner. The Portugal quince, Mr. R. considers the poorest and least suitable of all as a stock for the pear.

In no feature of his establishment is the spirit of progress more marked than in the numerous cheap glass structures with which it abounds. Every American is struck in England with the exceedingly solid and substantial manner in which almost every building, whether it be a castle or a conservatory, is erected and, as matter of course, with the great sum which such buildings cost. The consequence has been, that forcing houses, for vines and other fruit trees, or glass structures for ornamental purposes, have been almost wholly beyond the reach of all but the wealthy class. Mr. RIVERS has taken quite the opposite course, and looking upon the end to be obtained as the great point to be kept in view, has shown that it may be satisfactorily attained in so cheap a manner as to place the luxury of glass within the reach of every one who can spare one or two hundred dollars. We saw dozens of long glazed structures, the roofs of which were fixed, but wholly glazed, with the front, ends and rear, being only a slight frame of wood like a board fence, all most simply and ingeniously ventilated and warmed—and all at a cost not more than a fifth or an eighth of that usually expended on such buildings in England—while the fruits and plants produced in them were of very superior growth. In many cases the wood is not even planed, and all, even the sash-bars (or rather roof-strips which hold the glass) are sawn of the exact size necessary at the saw-mill, so that a house of this kind may be built by any person who understands the use of a common handsaw and hammer. These houses are all warmed by a simple brick stove, placed in the centre of the interior—a variation of the Armott stove, invented by Mr. RIVERS—which not

only performs its work admirably but consumes an exceedingly small quantity of fuel. As we brought away some sketches of the construction of this very cheap and simple kind of vinery, fruit, or plant house, we will endeavor to give them, with the necessary diagrams, in our next number, because we are confident that they will be even more generally useful (especially for foreign grapes) in the United States than in England. We may add that we saw in the different structures, fruit trees and vines of all kinds growing, both in borders and in pots, and all in the most admirable state of health and productiveness.

Mr. RIVERS' establishment is famous, on both sides of the Atlantic, for its collection of roses. Hence we saw acres of the finest varieties propagated and ready for sale here. Although the rose season was past, yet the *perpetuals*, which are at all times more or less in bloom, were gay with the finest flowers.—The two sorts which particularly attracted our attention, were *Geante des Batailles* and Standard of Marengo. Both these new perpetual roses are superb varieties—the color, of that rich deep crimson which may be described as a dark fiery-red. Some large plots covered wholly with *Geante des Batailles*, profusely covered with blossoms, looked like a rich green carpet embroidered with superb boquets of dark crimson roses. Both these sorts, and especially the first, are most abundant bloomers in September and October, and will speedily find their way into every garden, being as hardy and as fragrant as a common June rose. Among the freest flowering of the perpetual roses was Baron Prevost, a fine rose-colored variety well known in our gardens at home.

Overhanging the road which passes through the nurseries, is a sloping terrace of turf, above or behind which Mr. RIVERS' house stands. This terrace is prettily dotted with rare weeping trees and with standard perpetual roses, gay with flowers at almost all seasons. Among these, a very striking effect is produced by some grand specimens of standards produced by grafting the Ayrshire and Sempervirens roses on gigantic stocks 7 or 8 feet high.—Their branches grow out on all sides with a careless freedom, drooping to the ground like those of the weeping willow, and forming the finest possible *rose-pictures*.

It would be easy to fill pages with accounts of beautiful roses, but, as after all, we should not probably give so accurate and definite an idea of them as our readers would get by examining Mr. RIVERS' Rose Catalogue, we shall not continue our remarks further than to say that we saw thousands of the Mannetti rose, which is very extensively propagated here as a stock upon which to work the new and rare sorts. It has three great merits: 1st, that it is easily budded; 2nd, that it grows freely from slips, like the common China rose; 3rd, that it rarely, or never, produces suckers. We saw a parent plant of this variety here which has been growing in one place for 8 or 10 years past, and has shown no symptoms of throwing up suckers during the whole time, though the ground has been constantly stirred and dug around it. The Celine is another variety also much used as a stock.

We must now jot down a few notes which we made respecting some of the most ornamental and striking hardy trees and shrubs, of which a large but still choice collection is grown for sale here. We shall confine our remarks to those, as yet, scarcely known in the United States, but which from their hardiness and conspicuous beauty in the pleasure grounds or shrubbery, well deserve immediate introduction.

One of the prettiest and most striking small trees for the lawn, is a new Weeping Willow, which has hitherto borne the name in this nursery of the "American Weeping Willow." It is, however, we think, a misnomer, as it came originally from France, and there is no

such species known on this side of the Atlantic. It is far more slender and delicate in growth than the common Weeping Willow (*Salix Babylonica*) though a hardier tree in northern aspects. It is also distinguished by the purplish color of the shoots and the darker green hue of the leaves. The habit, too, is very distinct; if a cutting is stuck into the ground and allowed to take root, it forms a low trailing shrub. When grafted standard high, however, on a straight stem of a species of tree Willow, grown here for the purpose, its branches droop in the most graceful manner, forming a delicate and beautiful round head, with spray falling like a fountain—so much like it, indeed, that we suggested to Mr. R. the propriety of re-christening this *incognita* among Willows, the "Fountain Willow."

Another equally novel and striking lawn tree is the Weeping Purple Beech; its drooping habit quite picturesque, and the color of its very smooth foliage a rich dark purple, calculated to produce an unique effect among the ordinary green tints of the landscape garden. A narrow-leaved Weeping Ash (*Fraxinus lentiscifolia pendula*) struck us as extremely pretty. The Weeping Larch, a most slender and graceful variety, with branches falling like a rain shower. The Weeping Sophora, pretty well known already in American pleasure grounds as one of the most graceful of weeping shrubs, and the Weeping Silver Lime, (*Tilia alba pendula*,) a large tree with drooping branches, and foliage of a fine silvery tint on its under surface, are also worthy of the especial attention of those who wish to enrich their lawns with interesting specimens of sylvan beauty.

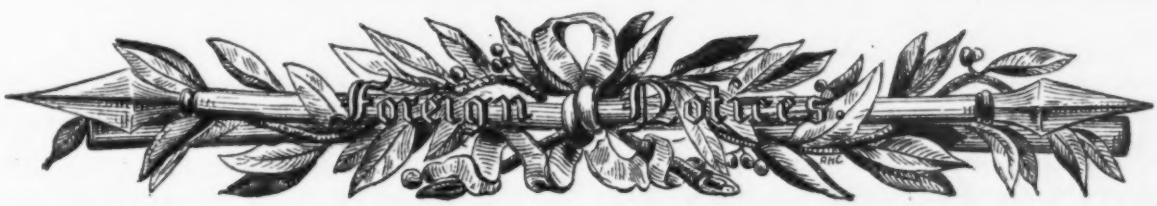
Among other fine trees which should be better known at home, we were most impressed by the following: A species of Maple called the Purple-leaved Sycamore,* whose leaves and foot-stalks are finely tinged with purple, which gives it a very pleasing effect in a group of other trees. It is a very hardy and vigorous tree. The Huntington Elm—an English variety, the most rapid growing of all Elms—with very large, broad and handsome foliage, very upright growth, and a remarkably clean, smooth trunk. The variegated leaved Oak, (*Quercus cerris var.*) the foliage finely and distinctly marked, and the Pyramidal Plane tree, a very healthy oriental species, with a finely shaped head. These were, to us, the most interesting among the deciduous trees; as the Deodar Cedar, the Chili Pine, the Douglass Fir, (of all which there is a large stock here,) were among evergreen trees. We should not, however, omit to mention, with especial admiration, a noble evergreen propagated here very extensively, called the Atlas Cedar (*Cedrus argentea*,) much hardier than the Cedar of Lebanon, with a beautiful silvery hue in its foliage. The Gold-striped Yew is a gay and novel looking small evergreen tree.

Among other miscellaneous deciduous shrubs we noticed a pretty new Tamarisk tree, (*Tamarix Africana*,) from the Atlas mountains, a high and snowy region; hence it will prove quite hardy in the United States, being much more so in Europe than the common German Tamarisk. Its delicate sea-green foliage and graceful slender shoots are very attractive. *Caragana pygmea* is a pretty drooping-headed shrub for the lawn; and *Hedera Regneriana* is a new Ivy with immense leaves, more hardy than the common European Ivy, and therefore likely to prove a valuable addition to our list of climbers in the United States. *Purpureum fruiticosum* is a low shrub valuable for its quality of growing close to the sea shore.

The practical nurseryman would find enough to occupy his attention for a long time in the curious and complete system of propagation carried on in this establishment. Not content there, with propagating all the more com-

* The species of Buttonwood, commonly called Sycamore in America, are known as "Plane trees" in England, while a species of broad-leaved Maple (*Acer pseudo platanus*) are known as Sycamore in the latter country.

mon hardy trees and shrubs in the usual modes, they have adopted quite another plan with new and rare sorts it is desired to multiply as rapidly as possible. An extensive range of low pits with sunken beds or borders, under which warm water pipes circulate, so as to communicate a genial bottom heat, is devoted to a continual system of propagation at all seasons. In these warm beds or borders, pots, containing cuttings, stocks newly grafted, &c., are plunged. As soon as they have "taken," the heat is allowed gradually to decline, or the plants, as soon as potted off, are placed in another pit with less heat—but still enough to stimulate the production of an abundance of new roots to the cuttings. Afterwards the plant is gradually hardened till it will bear full exposure to the open air. In this way we saw the operations of grafting rare shrubs and evergreens, usually performed only in spring, continued through the whole growing season, and thousands of cuttings, usually struck with difficulty, are made to root with surprising facility in this gentle bottom heat so favorable to the granulation of the organizable matter and the emission of new roots. The completeness of the system was only equalled by its economy in the cheap and admirably arranged structures, which, like every thing else here, bear the stamp of an inventive and scientific mind, combined with the strictest and most practical business system.



Scientific Nomenclature.—When one looks through modern Books on Natural History with unprejudiced eyes, it would appear that the great object of some authors was to mystify their readers. There is not a common thought or thing that is spoken of in common English. A hole is a foramen, a stalk a caudicula or a funiculus, a shield an apothecium; and minute anatomy is called histiology. If we go on in this manner, science will have to take rank with quackery, entomologists will sink to the level of chiropodists, and botanists may yield precedence to thermotherialists and homœpathists.

To avoid these consequences, natural history must address itself more to the feelings and habits of the community. English naturalists must write English, and not indulge in a jargon that can only be paralleled on the stage of a mountebank. Little things dressed up in big words are like the ass in the lion's skin; as soon as they are found out, they become objects of contempt. Let us suppose that a man sets about studying certain modern works which we could point out; that he has mastered endless technicalities, at the expense of much time and trouble; and that having done so, he finds the latter needless, denoting nothing but what his mother tongue would have denoted quite as well; we are afraid that, in such a case, disgust would get the better of zeal, and that he would be apt to apply to the science and its expounder an epithet of two syllables, which we have no doubt that the ingenuity of our readers will readily suggest.

But we shall be assured that our case is stated in terms stronger and more general than the facts will justify; and that the technicalities of which we complain are necessary, if natural history is to have any precision. Undoubtedly, if this be so, we shall have received a conclusive answer; for no means by which precision can be secured will admit of being neglected, and the inconvenience of adopting these means is nothing in comparison with the advantages to be derived from them. But is this so? Do men, by assigning special and strange names to every trifling modification of structure, attain the end proposed? Is it possible, by means of words, however cunningly devised, to give precision to things which have little precision in their nature? To our mind such exactness as is attainable in natural history is, in the majority of cases, to be secured by plain English as well as by crabbed barbarisms. We be-

lieve "the curvature of a stem" to be an expression as worthy of adoption as the grand word *Stelechorrhiphysia*.

An example or two will illustrate our meaning better than general allusions. In a work just hot from the press, and a good work too, we read that some mollusks are "*zoophagous*; and these further *evidence* their *resiliancy* from the *phytivorous* families by the character of their egg-repositories. It is true these cannot well be reduced to any of M. L.'s classes, but they are *concamerated nidi* of a peculiar character." We are not sure that we ourselves understand the learned author's meaning; but nevertheless we may venture to assert that the words in italics are wholly unnecessary, and that the sentence if put thus would have been more intelligible, without the loss of such precision as it can pretend to. "Some mollusks feed on other animals, and these further show their distinction from the families which feed on plants, by the character of their egg repositories (qu. nests.) It is true these cannot well be reduced to any of M. L.'s classes; but they are chambered nests of a peculiar character." We see no merit in such words as zoophagous, resiliancy, phytivorous, and concamerated nidi.

Our next illustration exemplifies the style of a popular work on Botany, professing to give English descriptions of plants. "A *glabrous* shrub. Branches *terete*. Leaves *distichous*, on short *petioles*, almost *coriaceous*, *obtuse* at the base, *rugose*, *dentate*, with a prominent *costa*. Flowers *secund*. Calyx with *subulate* segments, *saccate* at the base. Corolla *infundibuliform*, *plicate*, *calcarate*, irregular, *ciliated*, with the segments *caudate*. Stamens *exserted*, *heteromorphous*, the *anterior barbate*, the intermediate *arcuate* and *sericeous*, the *posterior complanate*, *clavate*, *fimbriated*, with *setaceous* processes," and so on. If the reader still doubts whether technicality may not after all be the soul of science, as some will have it, let us beg him to compare the foregoing jargon with the following translation of it into plain English: "A smooth shrub. Branches taper. Leaves in two rows on short stalks, almost leathery, blunt at the base, wrinkled, toothed, with a prominent midrib. Flowers all turned to one side. Calyx with awl-shaped segments, bagged at the base. Corolla funnel-shaped, plaited, spurred, irregular, fringed, with the segments extended into tails. Stamens projecting, of different forms; those in front bearded, in the middle curved and silky, at the back flattened, club-shaped, fringed with bristly processes."

Let us intreat the lovers of hard words to explain in what consisted the necessity of introducing into this description such words as terete, distichous, coriaceous, rugose, dentate, costa, saccate, subulate, arcuate, barbate, complanate, heteromorphous, and so forth. These words are, in truth, Latin and Greek, and it is as absurd for English writers to employ them in translations as it would be for English people to talk Latin and Greek in conversation.

With such examples as the foregoing, we think it not unreasonable to assert that some most important branches of science are swamped by a technical jargon, uncalled for by any exigency, and alike repulsive to good taste and common sense. That a perseverance in its use is fatal to the progress of natural history, we hold to be indisputable, and we earnestly hope that in future those English writers who undertake the task of public instruction, will endeavor to put their ideas into a language to which reason offers no objection, and by which the little educated may profit, as well as the highly educated; for thus alone will it be possible to bring natural science within the reach of all classes. *Dr. Lindley, in Gardeners' Chronicle.*

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Forcing Strawberries.—It is an important point with almost every one who cultivates strawberries, to have them early. Early forced strawberries are highly esteemed; and though the means of producing them may be but limited, still most people who possess a garden, and a little glass, make an attempt at forcing them. For very early work, the first runners should be secured. These may be pegged down on small 3-inch pots, and, when fully established, removed from the parent plants and re-potted into 6-inch pots, using rich loamy soil. Instead of the common practice of placing these pots behind a wall or hedge, on a north aspect, let them be plunged in the full sunshine up to their rims in coal-ashes or old tan. All runners which are made during the current autumn should be removed on their first appearance, and let the plants be watered once every week with liquid manure. Under such treatment they will have attained a highly matured condition by the approach of winter, and will be capable of producing an early spring crop.

As soon as the growing season is over, the pots should be taken out of the material in which they were plunged, and placed on their sides, to prevent the access of water. In order the more perfectly to effect this end, a quantity of old tan, sand, sawdust, or coal ashes should be provided for stacking them in. A dry situation should be selected for the purpose; the pots should then be placed upon their sides in two rows, the bottom of the pots facing each other, and the rims placed at the outer edge of the stacking material. The space between the pots should be filled up level with the tops, and another tier of pots added, until the ridge is 3 feet high. To throw off the wet, a covering of straw should be secured on the apex of the ridge. In severe weather the whole ridge may with facility be protected, and this will be the more desirable where a succession of forced strawberries is required, as a portion will require to be put in the forcing-house or pit every fortnight; and this could not be done, under fa-

vorable circumstances, if the frost is allowed free access to them.

The above practice is only recommended for the earlier crops; for later ones it is not required. One of the largest growers of forced strawberries for the London market never pots the later crops for forcing until they are wanted for that purpose. His success is beyond question; but then old plants are never chosen. Young plants, about a year bedded out, are such as he selects; a great amount of trouble and expense is thus saved. This cultivator has been equally successful in forcing the same plants two seasons consecutively—a practice not generally followed. *Gard. Chronicle.*

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Monstrous Flowers of Pelargoniums.—The following extract from a paper read by Mr. Sowerby at the Conversazione Meeting of the Royal Botanic Society, in the Regent's Park, describes an interesting case of monstrosity. After pointing out the distinguishing characters of the genera Geranium and Pelargonium, Mr. Sowerby proceeded to say: "The gardener, as in this case, when he finds nothing but external beauty to recommend a plant, endeavors, by selecting the most perfect, and then cultivating it highly, to increase in the succeeding both the beauty of colour and of form; and as the beauty of form depends on the same elements as that of colour, that is, as before explained, upon the indication of perfect adaptation to the end, or the resemblance of that indication, so a full round form is especially aimed at by the cultivator of flowers, and the Pelargonium fancier endeavors to obtain five broad and equal petals, to form a round flower, with the upper two deeply and brilliantly coloured, to produce a contrast to the three lower and light coloured ones; but with all his care the flowers do not come constant, and now and then one will play the truant, and sport as he calls it, and this commonly happens among the most petted or highest cultivated varieties. When the dark colour disappears from the upper petals altogether, and the petals become equal in size and form, it will be observed that the characteristic tubular nectary also disappears. The want of the nectary or honey tube is also accompanied by a regular arrangement of five anther-bearing and five abortive filaments. The white varieties are less liable to this change than those with rose or salmon-coloured petals, and it is also rare among the new fancy varieties; frequently it occurs in the central flower of the truss. In some flowers the nectary is also shortened, and in others a small spot will remain on one petal when the nectary is absent. In the fancy variety called Yeatmannianum grandiflorum, which has spots on all the petals, the spots become equal, the two large spots being reduced. An additional petal also accompanies the change in a few cases. One plant of the Beauty of Clapham, a rose-coloured variety, has almost every flower changed more or less. Thus it appears that cultivation makes one species of plant appear to run into another, and may destroy a remarkable generic character, consisting of the presence of an important organ in the flower, &c. Thus the gardener seems by over-cultivation to reduce his flower to a lower standard, but I do not think this is exactly the case; for though he may apparently reduce a Cape Pelargonium to a European Geranium in the eye of a botanist, or partly so, still he would have a more truly beautiful flower if he could obtain a full truss of beautiful large rose-coloured or pink flowers; we would recommend a trial of the seed from these sporting flowers." *Magazine of Natural History.*

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Exposing Greenhouse Plants in Summer — Many greenhouse plants, and especially the more delicate kinds, often suffer much injury from exposure to the sun's rays in summer. When so exposed without the benefit of shelter of any kind, the soil is apt to become so thoroughly dried, that it is with difficulty again wetted, and hence the scorched and stunted looking growth which may sometimes be seen on such plants in the summer season. The injury in most cases arises not from exposing the stem and branches of the plants, but from exposing the pot in which it is growing; the sun's rays acting on the sides of the pots, in conjunction with the evaporation constantly going on soon deprives the soil of its moisture; and as all the tender roots are usually more or less in contact with the inner surface of the pot, their injury is inevitable. It is no uncommon thing to see the soil so much dried as to shrink away from the pot, and in this case the roots cannot avoid being more or less injured. Under such circumstances, too, the water which is supplied sinks down as fast as it is poured on, and fails, for a long time at least, to moisten the interior of the soil. Then again, the necessity for constant watering, caused by this exposure, is an evident waste of time. When plants are turned out doors (and also when kept in doors) their roots ought to be sheltered by some means from the influences alluded to; plunging the pot in some open porous material will answer the end as well as anything; and of the substances that may be employed, moss, coal ashes, rough peat, sawdust, or fine charcoal are among the best that can be employed. It is desirable, also, to afford the entire plants a very thin shade during the intense sun heat of summer, but the lighter the material employed the better. *London Hort. Mag.*

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On the Use of Coffee in Arabia and Abyssinia. By M. A. d'Abbadie.—Great nutritive qualities have been attributed to coffee by M. de Gasparin, in his memoir, on the mode of living pursued by Belgian miners; and he quotes, in support of his opinion, the experience of the

French soldiers in Algiers, and of the Arab nations. Without pretending to dispute the accuracy of M. de Gasparin's conclusions, I may be allowed to state that the experience of the Arab tribes is not entirely in his favor. It is well known that the Wahabis, who dissent from Islamism, scrupulously abstain from coffee; and although I have lived with many of this sect, I never found that they were less temperate or less capable of fatigue than their coffee-drinking countrymen. If a proof more convincing than the above is sought, it will be found in Abyssinia, where the Mussulmans, who drink coffee several times a day, support a fast with less ease than the Christians. This has been many times observed by my brother, M. Arnauld d'Abbadie, who commanded soldiers of both religions in the wars of Gojjam. In the disastrous retreats across desert countries, the Mussulmans always suffered more than the Christians. The latter, who think it a crime to drink coffee, will follow the army on foot, heavily laden, for three successive days without any other refreshment than a little earth soaked in cold water. These same soldiers will fight during Lent without other nourishment than a quarter of a pound of unsifted flour, which is often baked in ashes, and without leaven. This flour is less nutritious than that of wheat, and the single meal is often at sunset, after a fatiguing day's march, and a twenty-four hours' fast. The Abyssinians are both less strong and less temperate than the Gallas. The latter, the whole object of whose existence seems to be continual warfare, often pass several days in succession in the deserts which separate them from their enemies. The Gallas then fast for an incredible length of time, which the traveller Bruce explains by their use of coffee boiled with its shell in butter, and seasoned with salt. It is true that the Gallas do use this substance, which will keep a long time, and which I have often tasted with pleasure, but they do not look upon it as an aliment. Before undertaking their military expeditions, they lay in an extra stock of strength by a very substantial and varied repast, taken in absolute rest, in huts at a distance from their women. They then start with a few Chick-peas, which they eat raw, and which they soon finish, fast if necessary for several days together, and afterwards fight with such vigor that their enemies never mention it without some expression of astonishment. It is well known that in Abyssinia, raw meat, whether fat or lean, does not possess the nutritive qualities which have been ascribed to it by M. Magendie in European meat. Whilst staying with the army of Agame, I heard the soldiers, who daily killed some hundreds of oxen, complain that they were losing their strength from exclusively eating raw meat. One of my porters gave up his situation and refused the extra pay which I offered him, because he said that he was losing his strength from the want of bread and the constant eating of raw flesh. This fact is admitted as true by all Abyssinians, notwithstanding their great liking for uncooked meat. An Abyssinian epicure would despise a meal which did not, partly at least, consist of a good raw lump of cow's flesh, still warm with animal heat and seasoned with pepper. On the other hand, my brother is satisfied, both by observation and by experiment, that, in the same countries, meat dried in the sun restores one's strength much better than raw meat, though not so well as corn. *Comptes Rendus.*

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Destruction of Wasps.—The annual sport among the youths of Traquair came to a close on Saturday, the 1st of June. They have bagged less game, and also less money, than usual this year. Let us take a retrospective view of the havoc that has been made among wasps for the last seven years, which will show how anxious the Earl of Traquair is to get rid of this destructive pest in his neighborhood:—In 1844 there were destroyed 244 dozen; in 1845, 1573 dozen, weight 4 lbs. 9½ oz.; in 1846, not a wasp to be found; in 1847, 4 dozen only, weight 4 oz.; in 1848, there were destroyed 1273¼ dozen, weight 4 lbs. 7 oz.; in 1849, 865¼ dozen, weight 2 lbs. 8 oz.; in 1850, 528¼ dozen, weight 1 lb. 11¼ oz. Total, 4459¼ doz., weight 13 lbs. 8 oz. during the last seven years, or rather five years, as in 1846–47, only four dozens were taken; these dozens will make the number of wasps to be 53,514—a good round number certainly in a circuit of three miles. Now, if all, or even one-half, of the proprietors in the country would use the same means to exterminate these insects, a wasp would soon be as rare a sight as a red deer on the hills around us. *Edinburgh Evening Courant.*

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Preservation of Green Kidney Beans.—The following is the process employed by M. Gehen de Montigny, for the preservation of green Kidney Beans. In fine weather gather the pods, before the seeds are too visible, take the threads off, plunge the pods in boiling water, and take them out again immediately; let them cool, put them in a tub in layers five inches deep, alternating with vine leaves, which must begin and end the series; on the top of the last layer of vine leaves, put a stone, heavy enough to keep the whole well pressed. Then pour in some salt water until the top is covered; replace the water as it evaporates. The Beans can thus be preserved quite fresh. *Flore des Serres.*

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Japan Lilies.—Few plants of recent introduction are more handsome or attractive than the Japan Lilies. They come into bloom at a time when the great majority of our New-Holland plants are over, and when an actual paucity of flowering plants exist, wherewith to decorate the conservatory and green-house, and what really

can be more suitable? They produce a gorgeous display either in-doors or out; and as they are quite hardy they may be liberally planted in the open border, and thus constitute one of our best autumnal flower garden plants.

Their propagation is simple and certain. The bulbs may be separated, and each scale will eventually form a new bulb. This separation should be effected when the flower stems are withered; the scales should be stuck into pans of silver sand, and placed in a cold frame or pit. After remaining one season in this position, they should be planted in a prepared bed of peat soil, and a little silver sand intermixed with it; thus treated the bulbs will soon grow large enough to flower.

The cultivation of them in pots is by no means difficut. I shall detail the practice I have pursued with success for some years. Immediately when the bulbs go to rest in the autumn is the proper time to repot them. By no means destroy the old roots, but carefully place them amongst the fresh soil. If large examples for particular display are required, large pots may be employed, and half a dozen large flowering bulbs placed in each pot. The soil I use is rough peat. The pots should be well drained, and the crown of the bulb just covered with the soil; when potted they should be placed in a cold pit or frame, in order to prevent the soil from freezing, although frost will not injure the bulb. Where room under glass is an object in winter, they may be plunged in the open air in coal ashes, in a manner similar to potted Hyacinths. I have at this time a large number coming into flower, which have never been under glass until within these few days; they have sustained no injury from exposure, and they present every appearance of making a grand display. There is scarcely any plant which is so much benefitted by liquid manure as the Lily, more especially before expanding its flowers. If used in a clear state, and considerably diluted, this water alone may be applied for at least a month before it comes into flower.

If the object should be out-door cultivation entirely, I snould recommend them to be planted in beds; their effect is exceedingly grand. Excavate the soil 18 inches deep, and fill in the bottom a foot deep with very coarse peat, intermixed with one-fifth of decayed manure or leaf mould. The remaining 6 inches may be entirely peat. If the bulbs are large enough to bloom, plant them 12 inches apart every way, and if beds of each kind are brought into contact with one another, the effect will be magnificent.

The following are the kinds I cultivate: Lilium lancifolium album, L. punctatum, and L. speciosum. The old Japonicum is also well worth growing. *Dr. Lindley, in Gard. Chronicle.*

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House-Bugs and Ants.—Your columns have recommended the getting rid of bugs, and certainly extreme cleanliness alone will effect this desirable purpose; besides this, in some warm countries it is a common practice to destroy these noisome insects by pouring quite boiling water on the parts of furniture infested with them. In this way a first operation may not always be sufficient, but it is easily repeated until all the insects and their eggs are destroyed. Furniture and places the most infested with them may be speedily cleared by solutions of either corrosive sublimate, or of sulphate of copper. Corrosive sublimate leaves no stain after its application, and therefore would be to be preferred, were it not extremely poisonous, and its use is the more dangerous as its solution is colourless. Sulphate of copper is also a poison, but only when taken in considerable quantity; it has been employed with the most complete success for washing old walls, ceilings, floors, and furniture swarming with bugs. The mode in which it was used was to put a few ounces of sulphate of copper into a basin, pouring upon it soft water, stirring the whole occasionally until the whole solution became saturated; a small quantity of the sulphate remaining undissolved indicates that the solution is saturated. Has corrosive sublimate in solution been tried for the destruction of ants in dwelling houses? A strong lessive from wood ashes was some years ago resorted to to get rid of a small species of this insect, and was found to dislodge them from the apartment they had invaded In the south of France oil of Juniper berries, called in the patois of the country *huile de cade* is frequently used in granaries to protect the corn in them from ants. For this purpose the oil is sprinkled on bare parts of the granary floor, but occasional renewals of the oil are requisite. It is also often mixed with the earth in preparing the *aire* on which corn is threshed, and in houses ants have been dislodged by *huile de cade* being put in the crevices of floors, and at their junction with the walls. *Ib.*

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Double Flowers.—The day is not yet so far distant when our scientific botanists were experiencing something like fever heat, from witnessing the growing partiality for these truly beautiful, though to them hateful, monstrosities—a fever only secondary in its evils to the nightmare antipathy with which they viewed the labors of the hybridising florist, who, in the extreme number as well as diversified forms of the varieties he introduced, seemed to make havock of nomenclature, and ride rough-shod through all their nicely drawn-up specific distinctions and definitions. Even they, however, our learned instructors—for though they were not free from prejudices any more than other men, we must not forget the debt we owe them—even they can now join the florist in expatiating upon, and defining the merits of, a beautiful hybrid; and, what is more, can mingle with the vulgar throng and behold a peculiar beauty in these double monstrosities, altoge-

ther apart from the means which such flowers present for building up a peculiar phytological theory.

I confess that in the case of many plants, such for instance as the Chinese Hibiscus, the single perfect flower is to my eye far more beautiful than the double varieties; but beautiful and lovely though many even of our common plants be in their single state—such as the daisy, when slowly rolling back its pale crimson hood-like covering as the sun's rays reach it in the morning—I conceive that few, with a correct taste for the beautiful, would think of contrasting for a moment the single and the double in such plants as daisies, primroses, violets, ranunculuses, pinks, carnations, roses, stocks, wall-flowers, Sweet Williams, rockets, balsams, fever-few, catch-fly, &c.; plants which, though generally found in their highest perfection in the garden of the amateur and cottager, will never disgrace the parterre of the nobleman.

Our attention has been directed to this subject by the inquiries of a lady correspondent, as to how such flowers are at first produced. "Is it from richness of soil, as in the stock? I know that double flowers may be perpetuated by impregnation, but want to know how to get one double in the first instance." Now our difficulty here consists in the fact, that our own mind is not quite made up on the subject, though we incline to our friend's supposition, that double flowers are chiefly produced by cultivation, and, in addition, that they are perpetuated by the same means; and although aware that they may be perpetuated by impregnation, we consider that even that holds a rather secondary place to careful cultivation. Glancing, however, at one or two fallacies may lead the investigations of our friends, who have time at their command, into a channel whence more consistent and legitimate deductions may proceed.

That our correspondent is not alone in her opinion, that double flowers are perpetuated by cross fecundation, may be seen in the circumstance of saving a single flowering stock for seed that has been surrounded by double ones; the practitioners believing that the contiguity of the double flowers will influence the single ones, and thus so far affect the seeds formed that they will produce plants with double flowers. Now, in examining the matter, it will at once be found that the double state in flowers is generally produced by the stamens, and the pistils, the male and female organs, and also at times what are termed floral leaves, &c., being all changed into petals; and the more completely this has been done, the more perfect the specimen appears as a double flower. But the more effectually this was accomplished, the more unlikely would such double flowers be to exercise any influence whatever upon the properties of the seed produced from single flowers in their vicinity. If these double flowers contained any perfect stamens, the fertilising pollen of these stamens might be transferred to the summit of the pistil of the single flowers, and thus the properties of the double flowers might be imparted to the seeds so fecundated. Thus, in saving seed from semi-double flowers, or even from flowers containing a greater number of petals than usual, there is a greater probability of obtaining double flowers in future than from plants with perfectly single flowers, as a predisposing cause in the first case has already been in action. Whether this double flowering condition be the result of disease or merely of a full plethoric habit, superinduced by high cultivation, is a question that will not at all affect the above proposition. But, if no such influence in the shape of male organs existed in the double flowers, then their neighborhood to the single ones could exercise no power whatever upon the qualities of the seed that would naturally be produced. Future culture will determine whether the plants from such a seed shall be puny or luxuriant, but that culture for the first season will have little or no influence as to the plant possessing double or single flowers; these are qualities which would be chiefly lodged in the seed while yet remaining in the seed-vessel of the nurse-parent. What, then, are some of the principles by which we ought to be guided, when our object is to obtain and preserve double flowers?

Making allowance for exceptions, the following may be adduced as leading general propositions:

First. To obtain double flowers from seed, dependence must not be placed upon the influence of a stray stamen that was not converted into a petal or flower leaf, but means must be taken to make the seeds possessed of a property which otherwise they would not possess, by superinducing a highly elaborated, full, plethoric habit, in the seeds. This can only be done by stimulating the plant with high cultivation at a certain period—after the flower-buds appear—and then by removing the greater portion of the seeds. If the stimulus is applied at an earlier period, the plant will increase greatly in luxuriance; by giving it thus later, a greater degree of strength is conveyed to the flowers; by thinning these flowers, or the seed vessels, as soon as formed, so as to have only a very few seeds to ripen, these, in consequence, acquire a full plethoric habit; and we know that in the vegetable and animal world alike, this state is opposed to productive fruitfulness, while in the deplethoric state it is encouraged. From a full double flower, therefore, we expect and obtain no seeds. From such plants as balsams, which, though said to be double, yet produce seeds, the rendering of them more double must be obtained by the high cultivating and seed thinning process. In their case, as well as some others, compactness of growth and clearness of colour seem to be gained by preserving the seed for several years; the fresher a seed, the sooner will it vegetate, and the stronger and more luxu-

riant the plant. In double composite flowers, such as the Dahlia, which consist of a number of florets upon a common receptacle, though the most of these florets may have their parts of fructification changed into petals, others may be unchanged, though they remain unnoticed until the petals fall off; and from these, when seeds are produced, more double flowers may be expected than from seeds saved from more single varieties, because possessing a greater constitutional tendency in that direction. This will more especially be the result when, as in the other cases, high cultivation is resorted to whenever the seed appears. Thus something like superfetation is induced in the seed, which leads it afterwards, when sown, to develope itself more in leaves and petals (which the botanists tell us are the same thing,) instead of flowers producing seed; and this altogether independent of the culture it receives for that season. When any of our friends, therefore, look somewhat disconsolate on their beds of stocks nearly all single, they may rest next to assured that the culture they imparted had little or nothing to do with it. The seeds they sowed would have been single in any circumstance. The matter is different in the perennial plants, such as the daisy and the primrose. Without resorting to seeds at all, the plant from being divided, having its soil frequently changed and stimulated by rich compost, will often gradually change from the single into the double flowering condittion, upon exactly the same principles; luxuriance and fruitfulness being ever opposed to each other. Several years ago we carried out these ideas with considerable success, and such as they are, now commend them to the notice of our friends who have more time at their command.

Secondly. On much the same principle, care should be taken to preserve double flowers, when propagating them by cuttings, runners, and divisions of the root,—by giving them the same careful cultivation, otherwise they are apt to return to the primitive single state. To secure this object effectually, two considerations should be attended to. If a rich stimulating system of cultivation is at the first resorted to, there will be the likelihood of having a luxuriant development of stem and leaves, at the expense of depriving the flowers of their requisite proportions. In all free-growing luxuriant plants, it will be wise policy not to over stimulate the plant until the bloom appears; and the increased nourishment judiciously given will then enlarge the size of the flower, while the rest of the plant would continue to maintain a comparative dwarf and stubby character. In choosing seed when it is produced, let it be selected from such plants. Then, again, if the size of the flower is to be maintained, and prevented degenerating into its primitive condition, rich composts should not only be used, but fresh soil, if possible, given to them every year.

Now is a good time to propagate all these pretty desirables, at least all that are of a comparative hardy nature. Many of them, when the flower stems are decayed, may be divided at the root; such as the Rocket, which with the Wall-flower and Sweet William, Lychnias, &c., will strike by small cuttings in light soil under a hand-light, under the same treatment as is resorted to with Pinks. In the case of using hard stems of Rockets and Wall-flowers, &c., it is advisable, after cutting through with a sharp knife at a joint, to run the knife upwards a short distance, through the centre of the cutting, and then to make a similar incision at right angles with the first, so that the base of the cutting shall consist of four equal divisions. This exposes a greater portion of the inner bark, and roots in consequence are more quickly and plentifully produced. *Cottage Gardener.*

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Fruit-packing.—A little advice on this subject may prove of some interest, both to the young gardener, the amateur, and the cottager: it being often imperfectly understood, or too carelessly practised.

In former days our fruits travelled by coaches, or by the ordinary road-waggon, but now principally by steam; and it is to modes of packing adapted to that kind of transit that we would now invite attention. By the former mode of travelling, the box or basket was subjected to a loose jolting action; by the latter, it undergoes a perpetual jarring; and although the action of the steam-carriage is by far more uniform than that of the old coach, yet these little jars, unless provided against, by good packing, are very damaging to tender fruits, or those with a thin skin and a soft pulp.

The kinds of material to pack in are the first consideration; and here we may observe, that whatever the kind be, it is, as we think, absolutely essential, that it be of an elastic character, and at the same time possess a kind of strength or soundness which, after travelling many miles and enduring many hard knocks, shall yet preserve its elasticity somewhat unimpaired. Thus, as an example, fine grass from lawns which have been mowed several times, or some from beneath the shade of trees, in a dry state, is a very tempting-looking material, and looks soft as silk; but for general purposes the second cut from upland mowing will be found far preferable, as longer preserving its elasticity.

Closeness, not to say tightness, in packing is the great essential; the one great maxim to bear in mind is this, Pressure is better than Friction. We well remember calling on an old schoolfellow, about twelve or fifteen years since, to advise with him as to the best mode of packing peaches; for at that period we grew the finest peaches in England; for a few years we had the honor of beating all competitors or nearly so, our fruit at that period averaging as much as 11 ounces, and sometimes nearly reaching 13. The schoolfellow alud-

ed to was the late Mr. David Dulley, who kept the large fruit-shop in Covent Garden, formerly occupied by the late Mrs. Grange. The axiom about "pressure, &c." was, he assured me, the best advice in few words that could be given ; and we have for many years had ample opportunity of proving the truth of Mr. Dulley's advice.

His opinion was, as to material, that few things excelled soft hay, or, as the Londoners term it, "rowen ;" such being for the most part the second cut or aftermath from grass lands of a somewhat finer character than ordinary. Nevertheless, he did not confine all fruit-packing to this material alone, but merely pointed to it as at least a useful adjunct in *all fruit*-packing.

At the same period we called at Gunter's in order to get their opinion ; there we were told, that sawdust or bran were capital materials for peach-packing ; the former from white and flavourless wood, such as the lime, horse chestnut, &c., &c. The soundness of the last advice has always appeared questionable, especially as to railroad travelling ; the sudden and severe jerks on which would seem to require that some body of a more yielding character should be placed around the fruit.

Some persons are very partial to the use of cotton, wool, or "wadding ;" some to dry and thrashed moss ; others use paper shavings from the stationers ; the latter being for the most part the edgings removed from writing paper during the squaring or finishing process we suppose. These paper shavings are, indeed, a truly good article, and perhaps are better for grape packing than any other material.

Having thus "broken the ice," as far as first principles are concerned, we must now beg to be a little more explicit, and to come home at once to the details ; we must crave our readers' patience whilst we pack three ideal boxes of strawberries, grapes, and peaches.

Strawberries.—Having provided a shallow box or tin of three inches in depth, clear inside measure, we will place, at least, one inch of dry thrashed green moss over the bottom : moss, from which, after thrashing, all dirt and dust have been completely ejected. This must be pressed as close as hands can make it ; indeed, made firm and equal. And, now, let a piece of fine and soft cap-paper be placed double, and perfectly even, for a bed for the strawberries. One of the best strawberry-packers we ever knew used to place a layer of nettle leaves (which had been gathered two or three days and become very pliant) over the cap-paper ; and exceedingly well it answered. These things done, let the same mode of packing, reversed, proceed, until the box is quite full ; so that the topping-up will be a facsimile of the bottoming, only, as before observed, reversed. And now we may fairly nail down or close the lid, and rest assured that they will travel well—from the Land's End to London.

Grapes.—We must now change our tactics, for we shall of course require both a deeper box and a stronger material ; the latter partly on account of the much increased weight, and consequently pressure. Grapes pack best, as we think, in a sort of diagonal position—not quite flat, but nearly so ; of course the stock end in the ascendant. The box being ready, and sufficiently roomy—four inches deeper than the bunch when in its recumbent position—two inches at least of the white paper shavings may be placed in the bottom, tucking them somewhat close, but not tight. If any of the paper remains in masses, as cut from the quires, it must be separated into individual strips. The best way now, in our opinion, is to surround each bunch as they are placed in the box with silver or tissue paper ; this must be placed gently, and somewhat loosely, round the bunch, avoiding carefully all friction ; and now a little extra paper shavings may be so placed as to form a sort of nest for the bunch, and this so managed, as that when the bunch with its paper is laid down there will be no occasion to move or to handle it again. As they are thus successively placed, a little paper must be introduced here and there as a wedge, or prop, to prevent the bunch from slipping.

When the bunches are very large, or possess huge shoulders, some little pillows or cushions may be introduced between them and the body of the bunch ; occasionally these may be formed by enclosing small portions of the paper shavings in the silver paper, thrusting such in any situation where a great weight of berries are likely to infringe on each other. The bunches being all thus placed, some more of the little cushions may be thrust here and there over the general surface, so placing them as to render it impossible for the bunch to move in any direction. The surface being thus brought level, nothing remains but to fill up the box with the paper shavings, taking care that it is quite full, so that the lid in fastening down will have to be compressed a little. The thrashed moss may, if necessary, be substituted for the paper shavings ; we are not aware which is best, but confess to a partiality for the shavings ; such, however, must not be coarse—the finer the better, and from thin white paper.

Peaches.—For these, we think, the soft or rowan hay not to be excelled. We have repeatedly sent the large peaches before named to the Chiswick exhibitions, with scarcely a blemish ; and as such were much admired by the public, and on one occasion their packing made the subject of a leading article in the *Chronicle*, we cannot do better than detail the precise mode of doing so on those occasions.

The boxes were made exactly eight inches in depth ; this allowed two inches of the packing material below the fruits, and two inches, or nearly so, above : thus, four inches at least were allowed for the thickness of the peach. Our boxes were petitioned-off into cells, measuring about five inches square on the surface ; one, of course, apportioned

to each peach. In the bottom of each of these was placed the two inches of rowan hay, pressed close, and shaped in a concave manner, so as to form a nest for the peach to descend into. Some squares of silver paper and cap paper were now provided; and first taking a square of cap paper in the left hand, another of silver was placed in it; the right hand then quietly placed the peach on the centre of the paper in the palm of the left hand, and now the right hand was employed to gently twist the four corners together. Thus imbedded the peach was lowered into its cell, and so on with the whole. The next proceeding was to take a long bladed knife—one of the ordinary dinner knives—and with this to tuck in the soft hay in a wedge-like character, until each sell was full, *close, but not hard*. Of course the top of the box received the two inches of rowan; and the box lid was obliged to be slightly compressed in nailing down, the hay being applied rather liberally.

Now, we do not mean to say that these are the only rules for fruit packing—fruit of a tender character we mean; but we do mean to say that they travelled well by these modes; and a hope may perhaps be indulged in, that our detail of the proceedings may assist in furnishing useful ideas on the subject of fruit packing amongst the uninitiated, for whom, in a great degree, it is our duty to write. It may be observed, in conclusion, that such things are not always confined to single layers; many of our country gentlemen or noblemen who have extensive gardens and forcing establishments have tin cases adapted to the reception of several layers; of course the packing of each layer is comported to the same system—each layer is complete in itself.

As opportunities occur, we shall feel it a duty to return to the subject, and must then descend to easy modes of packing our common fruits. *Cot. Gardener.*

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Poultry.—Brood after brood succeed each other with great rapidity until the yard appears alive, so numerous are its inhabitants. By far the safest plan when chickens are hatched is to keep the hen under coop for the first three weeks: this prevents her dragging her young brood over the wet grass, which occasions cramp and many other diseases to which young poultry of all sorts are liable. Rearing poultry requires a good deal of patience and attention, at least, to be a successful rearer of it; and what can be more disheartening, "in a small way," than to find the young things dying off! which is always the case unless trouble is taken with them. "If a thing is worth doing at all, it is worth doing well," is certainly true concerning poultry rearing. The great secret is to feed them ften, and a little at a time. The old nurse's saying of "children and chickens are always picking," is a very true one as regards at least, the latter; for if you carefully watch a brood of young chickens you will observe that they are always scratching about and picking up something—it may be a seed, or an insect, or a worm. Thus, nature points out the proper management; for, of course, if the hen is under a coop she cannot obtain food for them, and therefore it must be placed within their reach at various times during the day.

Ducks I have always found more difficult to rear than chickens; for they are very greedy, and often eat so much that they become suffocated. They stray along ways from their mother (if she be confined) in search of their favorite food, which is slugs; they are therefore very desirable assistants to the gardener, and as they do not scratch up the earth they are most useful, particularly in a flower garden. In moderation nature's food must be beneficial to them, but then they should not be fed to the same extent as when unable to cater for themselves. Boiled potates, damaged rice, and barley meal are all equally good for young poultry of all sorts. Ducks are particularly calculated for the poor man to keep, if he lives near a pond or ditch; for they require very little feeding, and are contented with the refuse of any vegetables. Cabbage boiled, chopped up, and mixed with the skins of potatoes, they will eat greedily; young nettles also, if boiled and mashed up, they like much. *Ib.*

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Creosote a Preserver of Wood from Sea-worms.—Some time ago one of your correspondents requested information as to the means of preserving wood from the ravages of sea-worms. It is not generally known that some experiments made last century in Plymouth Sound pointed out that timber when paid with cheap oils remained intact, though other pieces of it sunk in the same place were much worm-eaten. Oil of tar was, 40 years ago, recommended for paying timber intended for a work in the same Sound, and latterly creosote, or oil of tar, has become of very general use for the protection and preservation of wood in bridges, railway sleepers, &c. Creosote is the cheapest of all oils, but for some purposes its application is objectionable, since it renders wood so highly inflammable that insurance offices refuse to insure any works impregnated with it, and its noisome and long-enduring smell render its use improper in various instances, such as in structures for horticultural purposes, for example. Where the latter disadvantage may be considered as prohibiting the use of creosote, cheap oils free from smell, as whale oil, would probably be equally effectual in preserving wood from sea-worms. *Gard. Chronicle.*

THE CURCULIO.—SUCCESSFUL EXPERIMENT WITH WHITEWASH.—I wish to communicate a single fact in relation to the curculio—that pest of the plum-grower. The ravages of this insect have been the past season more than usually destructive of the smooth stone fruits in this neighborhood. We usually escape without suffering much from his depredations.

Of the plum trees in my garden, all of which are young, three only set fruit the last spring. These three were in June well covered with young fruit. As the fruit attained about half an inch diameter, the presence of the curculio was clearly indicated by the falling of the fruit, and the peculiar crescent puncture upon many plums still on the trees. Two of the three trees stand in an unfrequented part of the garden; the other, near the house by a wall, where it is passed by every half hour, or oftener, in the day. Having seen the use of whitewash recommended, I procured some for the experiment, and syringed thoroughly one of the trees—fruit, leaves and all—with the whitewash. From this time, it was evident that the enemy had withdrawn from this tree. No further attention was given to any of the trees to prevent the work of the curculio. The result is, that of the two trees standing in the part of the garden least frequented, the one whitewashed matured a heavy crop of beautiful plums; the other lost every plum—not one remaining beyond about the middle of July. The tree near the house matured a fine crop of fruit, though much less than the one syringed.

This experiment, although by no means warranting the conclusion that whitewash will prove an unfailing remedy for the curculio, seems to offer encouragement sufficient to justify its further use, with the hope that it may enable us to defeat in part, at least, his mischievous effects. Very truly yours, *C. P. Williams. Albany, September 12th*, 1850.

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BARKED TREES.—In the Horticulturist for September, p. 149, your correspondent, Mr. LAWTON, relates a singular instance of two apple trees being divested of their bark, for at least forty inches up the stems; the surface thus exposed being hard and dry, yet the trees are loaded with fruit of the finest size, and the trees of the most healthy appearance. He asks if such cases are frequent, what supports the life of the tree, and how is nourishment conveyed to the branches? The facts stated by Mr. LAWTON, are a very striking illustration of the power possessed by exogenous trees, of changing their functions, in cases of emergency, and propelling their fluids by different channels from those in which they naturally flow. In ordinary circumstances, the sap of exogens ascends through the alburnum (the newest layer of wood,) and descends through the liber, (or inner coating of bark,) both of which, in the case alluded to, were entirely destroyed. The sap, therefore, on reaching the denuded portion of the stem, must have taken a lateral communication through the wood, then assumed its longitudinal course until it reached the top of the annulation, when it again diverged from its channel into the alburnum.

This is nothing more than a case of "*ringing*," though rather a severe one. When this operation is practiced upon a tree, its effect is to diverge the ascending sap into the stratum of wood beneath the annulated part; but when it has passed by, it again returns into its accustomed channel. Whether the quantity of fluid be diminished, by being thus diverted from its course, I am unable to say, though I have no doubt there is a considerable loss by evaporation from the denuded part, which accounts for the check given to branches of trees on which this operation is performed.

A tree can no more bud, blossom, bear fruit and ripen it, during a season without food, than a human being could perform daily labor for the same time without sustenance. Neither plants nor animals have the power of creating that which did not previously exist. They are, therefore, entirely dependent upon surrounding supplies, for the matter wherewith to maintain and enlarge their structures. It cannot be supposed that the stored-up sap of the tree could alone produce the summer shoots, the flowers, and the fruit; for we know that the supply must be equal to the quantity drawn up the leaves; otherwise the ducts would be emptied, just as a lamp becomes empty by the drawing up of the fluid by the wick, ex-

actly as is the case with trees depending solely upon the stored-up sap of a tree will—especially in moist weather—produce leaves, and young shoots of some length; but it never produces flowers and ripens fruit. If the trees here spoken of, therefore, were not nourished in the manner here described, physiology points out no other method by which nourishment could be supplied to them.

Such cases as those alluded to by your correspondent, are by no means uncommon, and may frequently be found in open lands and neglected orchards, where cattle are allowed to run at large; but I have never seen an instance in which the tree was not permanently injured, when damaged to such an extent, and seldom will they produce perfect fruit. Cases to the contrary may exist; but they are exceptions to the rule. The alburnum of a tree is the most sensitive portion of the whole structure, and cannot be injured to any great extent, without producing sensible injury. The alburnum may be said to contain the life blood of the tree, and should never be injured by the operation of ringing; as by taking away the bark and liber, the end will be gained. The functions of a tree may be suddenly suspended without injury to the blossoms or fruit; but if the alburnum be destroyed, the fruit of the same season will drop off, or be otherwise worthless.

I am aware that trees have been found to *live* for some time after the bark, the liber, and the whole of the sap wood had been taken away, in a lateral ring. Fortuitous circumstances may preserve the tree for a short time under such conditions, but it soon dies. On the other hand, trees have lived for hundreds of years, when the interior layers of wood were rotten. In fact, our forests supply innumerable instances of trees existing for centuries with nothing but the bark, the liber, and a few external layers of young wood, which decays invariably as fast as it is made by the annual depositions. Respectfully yours, *R. B. Leuchars. September 14th*, 1850.

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Oswego Hort. Society.—I send you herewith a paper, containing the proceedings of the Oswego Horticultural Society, at the September exhibition in this city. The display of flowers was exceedingly fine,—the floral department comprising everything "rich and rare." Vegetables, abundant and choice, from the Lima bean to a red cabbage; the "City Garden" of Alderman Oliver furnishing the substantials in abundance. The contributions to the fruit department comprised, say a hundred varieties, *new* in this region. Planters are just beginning to gather from large plantations, commenced here in 1845, and continued to the present day. Although the season has been unfavorable, the show of peaches was magnificent in profusion and variety. The Large Early York (not serrate,) from Mr. Worden's grounds, taking the first premium. The display of pears from the nursery grounds of Messrs. Allen & Kline, and S. Worden, together with large contributions from private gardens, show the degree of interest and success in the cultivation of this delicious fruit. Among other choice things, the tables were graced, for the first time, with the *nectarine*. There were large donations of perfectly mature grapes, grown without extra care. Among these, preeminent were the Isabella and Sweet-Water. We want the Diana to crown the whole. At the close of the exhibition, all articles not removed were sold. Amount realised from sales and at the door, $75. Income of the society this year, over and above premiums and contingent expenses, not short of $300. Yours, &c. *J. M. Casey, Rec. Sec'y. Oswego, September* 19, 1850.

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Burr's New Pine Strawberry.—In your September number, Mr. J. Burr makes an effort to relieve himself from the responsibility of sending me spurious strawberry plants for the *Burr's New Pine*, by shifting it on Mr. Sites, the person to whom he had sold his "place, some two months previous" to the receipt of my order. which seems to call for some notice from me. I should have been glad if he could have made a more satisfactory apology. I know nothing of Mr. Sites; he may be a very honest and correct man; there is nothing in Mr. Burr's showing to the contrary. It is hardly likely that the plants would become confused in the short space of two months in the winter. His effort, therefore. to shove me off on to another party with whom I have never corresponded on the subject, can avail him nothing. He should have sent the order back to me with the $10, or asked me if I wished him to hand it over to his successor. I was very particular in stating to him the reason for sending it, which was to avoid committing mistakes in supplying my eastern correspondents; as I had some fears that my own stock had become mixed. I have refunded to the parties to whom I sent the spurious plants the money received,—it being the best redress I could make them. This Mr. B. has not felt it his business to do; but thinks it all sufficient to make an effort to rid himself from the responsibility. I could have done so with as much plausibility. Very respectfully yours, *A. H. Ernst. Spring Gardens, Cincinnati, September 6th*, 1850.

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The New-York State Fair.—The exhibition of the New-York State Agricultural Society took place at Albany on the 3d, 4th, 5th, and 6th of September. It was another grand display of the industrial products of the people of this great state, and was witnessed with delight by a vast multitude of people, gathered chiefly from this and the New-England states, though many were present from other states of the Union, from the Canadas, from Nova Scotia and New-Brunswick, and several from various foreign countries. The number of people was considerably greater than

at any previous show, as is shown by the receipts, being upwards of two thousand dollars more.

The general display was fully equal to any former one; indeed, with one or two exceptions, the departments were better filled than they have ever been on any previous occasion. In the horticultural department, the show was highly creditable. Considering that it was held at an earlier time than heretofore, the display of apples and pears was much better than was anticipated. There were no large collections of fruits from states, as at Buffalo and Syracuse; but with the exception of peaches, we think the show of fruits has not been surpassed in any previous year.

The collections of fruits by H. Vail, Troy, Dr. Wendell, Albany, Elwanger & Barry, Rochester, Jona. Battey, Keeseville, Wilson, Thorburn & Teller, Albany, were large and fine; and the less extensive but choice collections of Messrs. Prentice, Rathbone, Denniston, Dorr, Dr. March, Goold, Cary, and others, of Albany, Menand of Watervliet, and Pratt of Greenbush, made a good appearance, and were entitled to much credit

The principal contributor to this part of the exhibition, from out the state, was R. L. Colt, Esq., of Paterson, N. J., whose collection received great praise. His specimens of foreign grapes, of several varieties, were uncommonly fine. Dr. J. M. Ward, of New-Jersey, also sent several excellent specimens of peaches and other fruits, which were worthy of special notice.

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How to grow Melons.—Mr. Downing—I had the pleasure of eating some very fine muskmelons at Cottage Lawn, the seat of Thomas W. Ludlow, Esq., and he kindly gave me the following account of his method of treating them, which is so much less expensive and more simple than the usual manner of protecting the young plants with hand glasses, (which require a small fortune devoted to them alone,) that I think it may be useful to some of your readers:

After the young plants have been "started" in a frame, they are set out in the melon patch, and each one is enclosed by four common bricks, laid flat on the broadside; and the space at the top is covered over with a pane of ordinary window glass. This enclosure remains until the plant reaches the glass, when the bricks are turned up on one side, and the glass replaced. By the time they have grown up to this "roof," they are strong enough to do without protection, and the season so far advanced that frost is not feared. The fruit, resulting from this treatment, was uncommonly fine and large, and the vines very healthy and strong. The seeds may be sown at once in the melon-bed, if more convenient, and enclosed with the brick and glass. Very truly yours, *A Reader.*

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Inquiry about Vineries.—In the number of the Horticulturist for Jan'y, 1850, page 343, a Philadelphia Subscriber impliedly promised to let your readers know the cost of a vinery, which he was erecting, on the plan of the Clinton Point Vinery, though on a smaller scale. I believe that gentleman has forgotten his promise; at any rate, I have not noticed its fulfilment. If he will be pleased to send to you a particular description of his grapery, with its cost—the depth and extent of his border; and especially, if a drawing of it could be furnished, it would be very useful to many gentlemen who are contemplating to erect vineries in *New-England.*

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Notices of Green-Houses.—While sojourning among my friends in this city, I have for my own pleasure, as well as the satisfaction of others, called at several plant establishments, with a view to ascertain the truth of the reports made in the Horticulturist regarding the progress of plant culture in this vicinity. Among those worthy of introducing to notice, the Messrs. Hoggs share the first rank. Their grounds were clean, plants healthy, and houses well stocked. I saw, of flowering in their collection, the new and beautiful Lilium Testaceum, introduced from Japan in 1842, and Combretum Purpureum, very showy—the Drymonia Punctata and Francisia Violacea were also very pretty. There were several fine seedlings and named Gloxinias in flower. There was another new and rare plant I ought not to overlook, hoping it will ere long be found in every amateur's collection—it is a large and showy species of Penstemon from Texas, of which he possessed but a single specimen.

Mr. Niblo's vineries were also in tolerable order, but while I agree with your correspondent "M. C." that a fair representation of Horticultural establishments will greatly influence its interests, I must also say that exaggerating their real merit will have an equally bad effect. I am constrained to make these remarks in consequence of the unlimited praises your correspondent "Vitis" heaps upon this place. (I saw this and other places mentioned in this letter last June, about the time your correspondent "Vitis" writes.) The three span-roofed houses, "Vitis" so much eulogises, run parallel, north and south. They bore a tolerable crop, allowing for the many disadvantages to which your correspondent says they were subjected. They were making good wood, but were much affected with mildew. I don't mention these facts to invalidate the well known reputation of Mr. Galbraith—on the contrary, his superior skill is evidently proved in the 5th or lean-to house, with a south aspect. The vines and fruit in this house were such as would do honor to Roberts of England, or Allen of Massachusetts; but when a man is over-powered with business, something is sure to suffer. I did not see the conservatory. The out-ground was mantled with weeds, and seemingly altogether forgotten. This, no doubt, was owing to Mr. Nib-

LO's protracted illness, and pressure of city business.

Messrs. THORBURN, near Astoria, so often mentioned by your correspondents, also hold a prominent position. His large specimen plants were all out—two in particular—the Weeping Pine of New Zealand, about 12 feet high, with graceful drooping branches, and a large double flowering Pomogranate, attracted my attention. The houses were undergoing an arrangement for the summer, and, like the Messrs HOGGS, such as were completed bore evident testimony to the fact that an embargo is not put upon our green-house doors, as some of your correspondents would have it. The delicacy and beauty of the Fuchsias and Geraniums then in bloom, would inspire the most obdurate with a love for their cultivation Gladeolus hirsutus roseus was also pretty. Verbena, Robinson's defiance, made a great show; and a large plant of the Caledonian or Scotch Thistle, and double white Canterbury Bells were peculiarly striking. The Dahlias, of which their young stock seemed inexhaustible, were then promising well.

Mr. WOOLSEY's garden, near Astoria, is extensive and well kept. The Glass comprises one range divided in seven parts, of which, four are vineries, two pine stores, with a large plant conservatory in the centre. This latter was near divested of its former occupants, and left a skeleton exposed to the summer sun. The vines bore evidence of good management. They were well grown and had excellent crops of fruit in various stages of succession. The Pine Apple plants were small and clean, yet they were of a sickly yellowish hue, this, I presume, is chiefly owing to a full exposure to the summer's sun, having neither canvass nor paint to protect them.

Mr. E. WOOLSEY's place is also neatly kept, but his gardener having denied me the courtesy of showing me through, I can give no particulars of it.

Mr. HOYT's, near Astoria, is another of those places to which I would gladly call the attention of those that wish to see good practical business. The specimen plants here are superb. The greenhouses were well stocked and full of bloom. The vineries might be looked to, at a future period, for the effects of special manure. There is one 93 feet long by 16 feet wide, but for the convenience of forcing, &c., is divided into two parts, and heated by smoke flues. The width of the border outside is 18 feet, thoroughly prepared, 2 feet 9 inches deep. The inside border, which runs the width of the house, is also trenched this depth. The outside border is all paved, with a principal drain in front, to carry away any superfluous moisture. The gardener kindly informed me that in preparing this border, he used, in addition to stable manure, 50 bushels of bones, chiefly in the outside. The vines were planted twelve months last spring, and were, at the time of my visit, making monstrous growth. There are two other vineries, but time did not permit me taking any particular notes on them. The whole establishment was in excellent order, and does much credit to the skillful gardener. *Fidelius. New York, Sept.*, 1850.

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NOTES ON FRUITS OF THE SEASON—PEARS.—The Bloodgood, when at maturity, this season, has proved to be a more valuable fruit with us, than in any former year. Still it was not equal to the Madeleine and ripens two weeks later. The Dearborn's Seedling maintains its high character for fine flavor, but it does not surpass the Zoar Beauty, and is one-third less in size. The latter we must place in our list of number ones. The Moyamensing is now mature, and promises to sustain its reputation as a valuable fruit. Our markets are at this time supplied with the Windsor or Summer Belle, which, though one of the most saleable of fruits, is worthless and not worthy of cultivation. The same remark is applicable to the English Jargonelle. The Musk Robert or Quince stocks is superior in size, flavor, time of maturing to the same kinds raised on standard trees. Still, it cannot be considered of much value. The Belle of Brussels, in Mr. Elliott's grounds has, this season, equalled its highest recommendations. With us, it once attained to that standard, but in subsequent years proved so poor that we discarded it. The Rostiezer is ripening with us; but its small size will operate unfavorably to it, however valuable its other qualities may prove. The Tyson is decidedly the finest flavored pear we have tasted this season. In size, color and form it bears some resemblance to the Zoar Beauty—in flavor it excels; and we must place it among the No. ones.

APPLES.—Bevan's Favorite, though a spicy and rather high flavored apple, is too hard and dry in its texture to be considered a first rate table fruit, yet its fine appearance and durability will always ensure it a ready sale in market. It cooks tolerably tender, though not equal to the Summer Rose and Red Astrachan. A variety is cultivated in this vicinity under the name of Rambour Franc and Benoni; which of the two names is correct is not decided. Its qualities fall far short of those given to the Benoni by Coles & Downing, and it ripens too early to agree with the time named for the maturing of the Rambour Franc, by Coxe. It is not worthy of cultivation. Summer Pearmain, is ripening at this time in a high state of perfection, and is entirely exempt from cracking, which sometimes impairs its value. Early Joe, to our taste, is one of the finest eating apples with which we have ever met. Every orchard and even a small garden should contain at least one tree for family use. As a market fruit it is of no value. William's Favorite and Red Quarrenden have not attained to their usual high standard this season, owing to the trees being denuded of their leaves by red-legged locusts. Os-

lin is too tart and crisp for our taste. It cooks tolerably well. The Gravenstein is now in a very good condition for cooking, and we find all other kinds rejected from the kitchen as soon as it is introduced. It is considered an autumn apple and does not become a good fruit for eating till September; but by the 20th of August it is valuable for pies and tarts. It is entitled to a place among the most select varieties. The Golden Sweeting, cultivated on an extensive scale, might be made profitable for advancing the condition of the farmer's stock of swine before his crop of corn has matured, and at a season when his supplies of feed are rather limited. This apple and clover pasture promote their growth, as well as grain, and at a much cheaper rate. It is a free grower, and very productive every year.

Peaches.—The Early Tillotson and Early Ann, are now coming into maturity. The former would be valuable if the trees were not affected with a kind of blight which impairs the growth and vigor. The latter is not prolific, and cannot be considered worthy of cultivation.

In favorable localities, the Yellow and Red Rareripe is also beginning to ripen. This variety will repay the cultivator for the labor and care that he bestows upon it, and must be considered as the best of our very early peaches. Three seedlings from it were exhibited, on the tables of Cleveland Horticultural Society, on Saturday last, that were in some respects superior to the original kind. Mr. Haughton also exhibited, at the same time and place, some very fine peaches, that resembled in every particular the variety formerly cultivated in this vicinity as the Early York, except in their time of ripening. If they should prove to be a new variety, ripening a week earlier than the original kind, they will be a valuable acquisition.

Plums.—We have already alluded, in the columns of the Family Visitor, to the decay or rot of the plum. It has again appeared in our orchard, and is destroying, with a few exceptions, all varieties. We had hoped that special manuring and high feeding of the trees might prevent its occurrence, but our expectations have been defeated. It has, this season, attacked every variety without regard to the soil or exposure. Trees freely supplied with bones, ashes and manure, have escaped no better than those that have been left entirely to themselves. Free applications of salt about the roots, repeated every six months, apparently protected the fruit from attacks of the curculio. At least, the ravages of that insect have been confined, almost exclusively, to fruits on trees that were not treated with salt. No means that we have yet devised has availed anything, as a remedy, against attacks of the rot. Among the varieties that have matured with us, we would mention the Lawrence; nothing in the line of plums can exceed its excellence. The Bingham is also a delicious fruit. Drap d'Or is a profuse bearer—early and excellent for pies, but not of much value for eating. The variety disseminated in this vicinity as the Royal Russian, is probably spurious, and proves to be near akin to Bolmar's Washington, if not identical. Dennison's Superb equals the description in the books. *P. Kirtland, in Family Visitor.*

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Kentucky Horticultural Society.—There was a very fine display of grapes, peaches, and plums upon the society's tables to-day, and we were pleased to see that they had no lack of admirers, and those too of the right sort—admirers ready to encourage the grower of good fruits by that most substantial of persuasives, liberal prices. This, we think, will abundantly appear by reference to extracts from the sales at auction, which, as usual, took place at noon to-day.

Among the contributors, we were pleased to notice the name of our old friend, Mr. Hugoni, who had a very handsome lot of Golden Chasselas grapes. We noticed also some very fine peaches, without name, from Bishop Smith, of Jefferson county, which we understand weighed twelve ounces a piece. There were also several very clever contributions of vegetables, among which we noticed a bean, new in this market, which is greatly praised. The only thing we saw to regret on the occasion was the fact that the number of contributors was no greater. Our friend from Jefferson county, L. Young, Esq., contributed largely to the display, and among his peaches (some eight or ten varieties in number,) we noticed several that were very fine, particularly the Orange free and the Catharine. Among his plums we were struck with Cooper's Red, as being very perfect, large, and well ripened. *Louisville Journal.*

PRIZE GERANIUM—SPECIMEN OF HORTICULTURAL SKILL.